



Evaluation of the 2020 “Talking is Teaching: Talk, Read, Sing” Literacy Intervention in Baltimore Metropolitan WIC Centers

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Report prepared for Too Small to Fail (TSTF). Learn more about TSTF at www.toosmall.org. Find resources for parents and caregivers at www.talkingisteaching.org or on Facebook (www.facebook.com/2smalltofail). Twitter (@2SmalltoFail), and Instagram (www.instagram.com/2smalltofail).



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EXECUTIVE SUMMARY

BACKGROUND

Researchers at the University of Maryland, Baltimore County (UMBC) were asked by Too Small to Fail (TSTF, the early childhood initiative within the Clinton Foundation) to evaluate the effectiveness of a literacy intervention conducted at six Women, Infant, and Children (WIC) sites in Baltimore City and Baltimore County, Maryland during the winter and spring of 2020.

TSTF promotes early brain and language development by supporting parents and caregivers with tools to talk, read, and sing with their young children from birth. Almost 60% of children in the United States start kindergarten unprepared, lagging behind their peers in critical literacy skills. Through partnerships with pediatricians, hospitals, faith-based leaders, community-based organizations, businesses, entertainment leaders, and others, TSTF is meeting parents where they are to help them prepare their children for success in school and beyond. Whether at the pediatricians' office or the playground, TSTF aims to make small moments big by creating opportunities for meaningful interactions anytime, anywhere.

The literacy intervention, part of TSTF's "Talking is Teaching: Talk, Read, Sing" national campaign, included a staff-led component and the creation of a literacy-rich environment in each participating WIC waiting room. Key features of the literacy intervention are that parents 1) learn about the importance of literacy and means of fostering it from staff members with whom they have worked before and presumably have established a positive, trusting relationship, and 2) are exposed to literacy rich environments without having to go out of their way to access them.

The implementation of this evaluation was impacted by the COVID-19 pandemic in March 2020. The modified evaluation therefore fell into two parts, Part 1 included baseline observations of WIC centers prior to the installation of a Family Read, Play, and Learn centers in the WIC waiting rooms, questionnaires administered after staff conversations with parents about the importance of reading, talking, and singing with one's child as well as nutritional information. Parents also received a tote bag including a book, puppet, music card, tip sheet, and placemat. The parents' questionnaire included questions about their related behaviors pre-and post-intervention. Staff members also completed a questionnaire about their views about the effectiveness of the intervention. Parts 2 and 3 occurred about three months after Part 1. Part 2 included follow up questions about the frequency of engagement in various literacy-related activities. Part 3 focused more on the impact of COVID-19.

KEY FINDINGS

PART 1: CHILDREN'S WAITING ROOM ACTIVITIES

Observations at WIC Center. Across about 240 hours of baseline observations, researchers documented relatively few literacy-related interactions in the WIC waiting rooms. Fewer than 5% of the activities children engaged in involved singing (3%), reading (2%), drawing (1%), rhyming (1%), or interacting with signage posted in the waiting room (3%). One exception was that about 45% of the children talked to themselves or others. This is consistent with what has been found in other neighborhood sites and perhaps is not surprising given that there were few literacy-related artifacts available in the WIC center waiting rooms.

PART 2: THE EFFECTS OF THE STAFF-LED INTERVENTION

Parents' Knowledge. Generally, parents reported knowing a lot about the importance of engaging in literacy-related behaviors with their children (90% parents knew a lot about talking, 72% about reading, and 78% about singing). Most parents also knew a lot about their role in their children's development (93%) and about talking about healthy behavior with their children (57%) before speaking with WIC staff. In general, parents were least knowledgeable about talking with their children about healthy eating behaviors. Despite many parents beginning with knowledge about aspects of important literacy-related activities, parents' knowledge after receiving the staff-led intervention was statistically significantly higher ($p < .05$).

Parents' Literacy Behaviors. The majority of parents reported engaging in literacy-related activities at least three times a week with their children, with many indicating they do so every day (30% of parents read, 57% sang, 26% told stories, and 42% rhymed with their children every day). Similarly, 40% of parents reported serving as role models of such behaviors every day for their children. It is generally recommended for children to be exposed to literacy activities often. However, some parents (4%-19%) reported not engaging with these activities with their children at all.

Many parents reported having children's books ($M_{\text{number of books}} = 15.55$), nonchildren's books ($M = 17.73$) and other printed materials available at home ($M = 7.2$). Nevertheless, some households did not have any reading materials: about 4% of households had no children's books, 9% had no non-children's books, and 23% had no other types of reading materials.

Relatively few parents reported that they experienced barriers to coming to the WIC centers. When parents did report barriers, the most commonly reported ones were time conflicts ($n = 21$) and transportation ($n = 21$).

Staff Members. The majority of staff members found the training they received to conduct the intervention made them very prepared for discussing literacy-related behaviors (68%) and healthy eating (96%), although some thought they could benefit from more training (36%). Staff members also thought that the parents learned either a few things (82%) or a lot (14%) from the intervention. The majority of staff members also thought the intervention helped improve the services WIC offered (86%) and how they talked to parents about talking, singing, and reading (86%).

PART 3: THE EFFECTS OF COVID-19

Most parents used the items available in the tote bags and found them useful. Parents who used an item (e.g., bib) were asked how useful that item was. For instance, of the 71% of parents who used the bib, 75% of them found the bib very or extremely useful (see table below). Compared to other items, fewer parents used the music card and found the music card useful.

Toolkit Item	Used Item	Found Item Very or Extremely Useful
Bib	71%	75%
Placemat	72%	74%
Book	97%	88%
Tip sheet	62%	61%
Tote bag	89%	79%
Puppet	96%	86%
Music card	38%	50%

Parents reported engaging in talking (95%), reading (90%), and singing (88%) with their children as a function of the staff-led intervention. Very few people reported that COVID-19 had interfered with their doing any of these activities. Note, however, we cannot definitively account for changes in behavior as COVID-19 may have created or omitted barriers impacting parents' engagement in literacy activities with their children.

Parents believed they had increased the frequency of their literacy-related interactions with their children since the onset of COVID-19. **About half the parents believed the frequency with which they engaged in literacy-related behaviors with their children had increased since the onset of COVID-19: 52% reported reading more, 53% singing, 46% telling stories, and 46% rhyming more with their children.** In addition, **61% of parents reported reading in front of their children more frequently since the pandemic began.** That is, they served as role models of literacy

engagement. Fewer than 10% of parents reported that they were engaging in these activities less often since COVID-19 began.

Parents were asked what resources, if any, would be helpful for them to receive during the current crisis. **Of the 74 parents who wished to receive more resources, those related to health (7%), education and technology (34%), and basic needs (10%) were most frequently mentioned.** About 47% of parents indicated resources would be helpful but did not indicate what types of resources they would find most helpful.

CONCLUSION

The staff-led component of the intervention, in which staff members discussed with parents the need to engage in literacy-related activities with their children, was effective. **Parents reported increased knowledge about the importance of literacy-related interactions with their children and increased knowledge about healthy eating.** Despite the need to modify the implementation of the intervention and the onset of COVID-19, parents recalled the training several months later and their self-reports showed increased engagement in literacy-related activities with their children. **These findings are in keeping with what has been found at other sites, suggesting the program and its findings can be successfully implemented with different demographic groups and at different types of sites.**

BACKGROUND INFORMATION

Researchers at the University of Maryland, Baltimore County (UMBC) were asked by Too Small to Fail (TSTF, the early childhood initiative within the Clinton Foundation) to evaluate the effectiveness of a literacy intervention conducted at six Women, Infant, and Children (WIC) sites in Baltimore City and Baltimore County, Maryland (two in the city and four in the county) during the winter and spring of 2020. WIC is a federally funded food and nutrition assistance program whose goal is to “safeguard the health of low-income women, infants, and children younger than 5 who are at nutritional risk” (USDA, 2013).

TSTF promotes early brain and language development by supporting parents and caregivers with tools to talk, read, and sing with their young children from birth. Almost 60% of children in the United States start kindergarten unprepared, lagging behind their peers in critical literacy skills. Through partnerships with pediatricians, hospitals, faith-based leaders, community-based organizations, businesses, entertainment leaders, and others, TSTF is meeting parents where they are to help them prepare their children for success in school and beyond. Whether at the pediatricians’ office or the playground, TSTF aims to make small moments big by creating opportunities for meaningful interactions anytime, anywhere.

The literacy intervention was part of TSTF’s “Talking is Teaching: Talk, Read, Sing” national campaign. The goal of the campaign is to help parents better prepare their children for school by fostering their children’s language development from birth and increasing parents’ awareness of opportunities to engage in literacy-related interactions with their children. Prior versions of the literacy intervention had been implemented successfully at other sites around the country, including other WIC centers and laundromats. What was new for this intervention was the combination of a staff-led intervention *and* the creation of a literacy rich environment in each participating WIC waiting room:

Staff-led intervention



- Staff had a conversation with parents (we use the term parent to refer to mothers, fathers, or whomever is serving in the role of guardian to the child and has come to the WIC center) about the importance of talking, singing, and reading with one’s infant or child
- Staff distributed toolkits with literacy materials to parents. Toolkits included a bib, placemat, book, tip sheet, tote bag, puppet, and music card.



Creating literacy-rich WIC center waiting rooms

- Family Read, Play, and Learn centers would be installed in the waiting rooms of participating WIC centers
- Each Family Read, Play, and Learn center included a bookshelf stocked with age-appropriate books, a colorful carpet, toys, and seats.

A key feature of the staff-led aspect of the literacy intervention is that parents learn about the importance of literacy and means of fostering it from staff members with whom they have worked before and presumably have established a positive, trusting relationship.

The interventions designed by TSTF are based on many years of research on children's reading and literacy development showing the importance of: the language that infants and young children hear; role models of language literacy engagement; exposure to environmental print; and opportunities to engage with literacy artifacts (e.g., Farver et al., 2013; Niklas & Schneider, 2013; Sonnenschein & Dowling, 2016; Sonnenschein et al., 2016). Unfortunately, children from low-income backgrounds, such as those served by WIC centers, often start formal schooling with more limited literacy skills than their peers from more affluent backgrounds (Serpell et al., 2005). Some of these differences are evident within the first 12 months of life (Fernald et al., 2013) and without intervention, increase as children go through school (Aikens & Barbarin, 2008). Taken together, the existing research supports the need for early literacy intervention.

EVALUATION

This report summarizes findings from an evaluation that took place between January 2020 and August 2020 (see Figure 1 for a detailed timeline). Although the time frame of evaluations is generally important to note, it is particularly important for this evaluation as it coincided with the COVID-19 pandemic. The severity of COVID-19 necessitated changes to the original evaluation plan. We present below the original questions and discuss how they were modified because of limitations imposed by COVID-19.

1. Does the language/literacy used by the families change after the introduction of the Family Read Play and Learn centers in WIC waiting rooms?

- a. **Original plan:** Collect observational data of in the six WIC centers' waiting rooms prior to (e.g., baseline) and after the installation of the Family Read, Play, and Learn centers.
- b. **Modification:** Baseline observational data were collected as planned. The baseline observation allowed us to learn what the normative literacy behaviors in the waiting rooms were. The follow-up observation was not possible due to the COVID-19 pandemic. Accordingly, we present only the results from the baseline observation.

2. Will parents' literacy and health-related knowledge and activities increase as a function of the intervention conducted by WIC staff members?

- a. **Original plan:** Data will come from parents who spoke with WIC staff members about the importance of talking, singing, and reading with their children and who also received a tote bag. These parents will complete a questionnaire (Time 1 questionnaire 1) which included questions about parents' knowledge before receiving staff-led training and immediately afterwards. In addition, a second questionnaire (Time 2 parent questionnaire), which will include questions on frequency of literacy activity engagement and assessment of the Family, Read, Play, and Learn centers, will be administered about three months later.
- b. **Modification:** No modification to the Time 1 parent questionnaire was needed; however, data collection was halted before the intended sample size ($N = 800$) was obtained. The Time 2 parent questionnaire was modified to include information about how parents' practices at home with their children changed because of COVID-19 and what resources and information parents wanted or needed. Questions about the Family Read, Play, and Learn centers were also omitted. Although the installation of

these centers did occur in some WIC waiting rooms, center materials were removed due to the COVID-19 pandemic. In addition, many families began receiving tele-services thus limiting their contact with the waiting rooms.

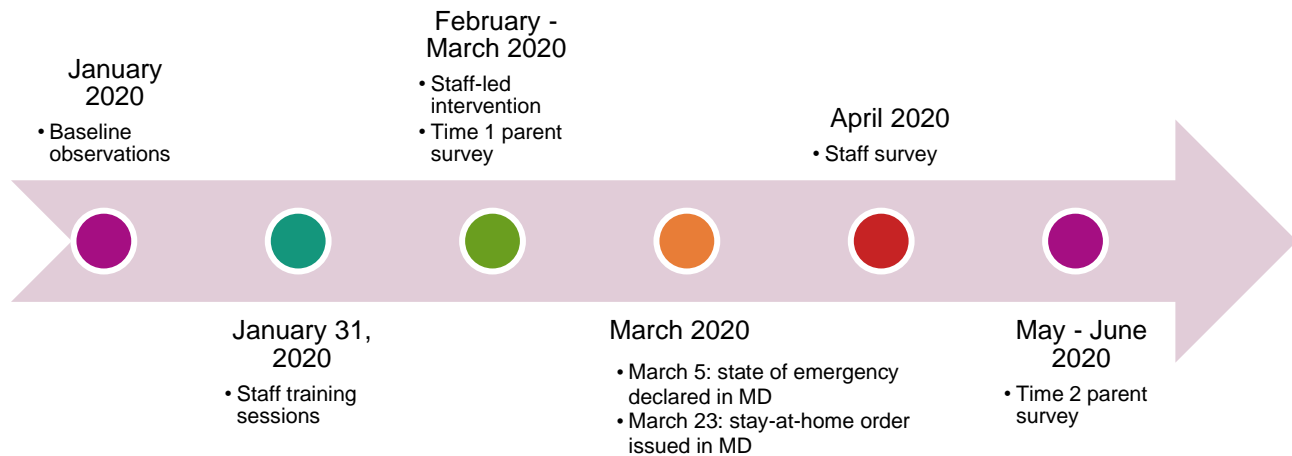
3. Are staff members satisfied with their training and do they think the training was effective for parents?

- a. **Original plan:** Staff members attended a training session led by staff from TSTF at the end of January 2020. Two sessions were held, one in Baltimore County and one in Baltimore City. A member of the evaluation team attended each session and was available to answer any questions.
- b. **Modification:** No modification was needed.

In short, as noted above, unfortunately the scope and details of the evaluation needed to change due to the onset of COVID-19 which resulted in a shelter in place order by the Governor of Maryland and closed schools, colleges, stores, many WIC centers and other facilities. The data contained in this report are organized into three parts, one about the baseline observation (Part 1), one about the effectiveness of the intervention (Part 2), and one more directly related to the impact of COVID-19 (Part 3). For the most part, the questions in Part 2 do not overlap with those in Part 3. However, in a few cases they do. We discuss the relevant questions further in subsequent sections.

Figure 1

Evaluation Timeline



WIC CENTERS

Six WIC centers, two in Baltimore City (Cherry Hill and Johns Hopkins Hospital) and the other four in Baltimore County, participated in this evaluation. Each served families from various racial/ethnic groups, although families were predominantly Black/African American, White, or Latinx (see Appendix A for sample information). A total of 233 parents across the six centers participated in at least one component of this evaluation. WIC center staff implemented part of the intervention and participated in the evaluation by answering survey questions about their perception of the intervention and its impact. Twenty-seven staff implemented the intervention and collected Time 1 data, 21 staff collected Time 2 data, and 22 staff completed the staff survey. The centers, grouped by location, are briefly described below. Common to the centers were adult-sized chairs and toys for children to play with. Although some centers (e.g., Woodlawn) had literacy materials (e.g., books) set out for families in the waiting room, these were removed prior to observations starting.

BALTIMORE CITY LOCATIONS

- **Cherry Hill:** The Cherry Hill WIC Center, located within a shopping center in the southern part of Baltimore City, serves about 700 families. Prior to the intervention, the waiting room had many chairs for adults, and a play area for children located in the center of the waiting space.
- **Johns Hopkins Hospital:** The Johns Hopkins WIC Center is located inside Johns Hopkins Hospital in Baltimore City. About 960 families are served at this center. Prior to the intervention, the waiting area had several adult-sized chairs in a hallway that were near WIC brochures and signage.

BALTIMORE COUNTY LOCATIONS

- **Chartley:** The Chartley WIC Center is located inside a shopping center in Northwest Baltimore County. About 1600 families are served there. Prior to the intervention, the waiting room had a few children's toys and child-sized chairs located near several adult-sized chairs.
- **Eastern Family Resource Center:** The WIC Center within Eastern Family Resource Center is in a large complex in Northeast Baltimore County. The Eastern Family Resource Center houses multiple Maryland Health Department services. About 1200 families are served there. Prior to the intervention, the waiting room space had chairs for both adults and children, and several children's toys, separated from the waiting area by a glass wall.

- **Lansdowne:** The Lansdowne WIC Center is located inside a health center off a well-trafficked, residential road in West Baltimore County. About 1300 families are served by this center. Prior to the intervention, the waiting room had a few adult chairs and a small play area for children, located in the center of the waiting space.
- **Woodlawn:** The Woodlawn WIC Center is located within a business park off a heavily trafficked street in West Baltimore County. About 2200 families are served by this center. Prior to the intervention, the waiting room had several chairs for adults and children, a children's table, and a children's play area that was separated from the waiting area by a half wall.

INVOLVEMENT OF STAKEHOLDERS AND OTHER EXPERTS

The measures described in the following sections were developed by the evaluators, although often adapted from those used by others in the field. The Time 1 parent questionnaire (and some of the Time 2 parent questionnaire) was adapted from that included in the Alameda evaluation and the work of Susan Neuman, Professor of Childhood and Literacy Education at New York University, who has conducted similar evaluations in laundromats for TSTF. Including questions from the Alameda report should facilitate comparing results from the two sites. Our coding sheet for the observation was based on our knowledge of research on language and literacy development, the work of others who have done similar observations (e.g., Susan Neuman), and what seemed feasible given the constraints of observing in a waiting room (e.g., noise, limited space, operating hours).

We shared our measures with and invited commentary from stakeholders (directors of the WIC centers and staff at TSTF, as well as several others who had evaluated similar programs for TSTF in the past). We used the feedback we received from the various stakeholders and content experts to revise our questionnaires and observation protocols.

PREPARATION AND ANALYSES OF DATA

Data for the observations and the Time 1 parent questionnaire, a paper and pencil measure, were entered by a research assistant into the computer using the SPSS-26 software package. The data were re-entered in a separate file by a second research assistant and the two data files were compared for accuracy. Discrepancies between the two files were reviewed and resolved by checking the original data. The Time 2 parent questionnaire was administered via an online survey hosted on Qualtrics, an online survey software that encrypts submitted data. The difference in administration

formats was due to the onset of COVID-19, which impacted the research team's access to their on-campus research lab. The data from Qualtrics were downloaded as SPSS files.

This report includes descriptive analyses (frequencies, means, standard deviations). To test for statistically significant differences within and between groups, we used inferential statistics including Analyses of Variance (ANOVA), *t*-tests, and χ^2 . As is common in the field, statistically significant differences are defined as those occurring fewer than 5 out of 100 times by chance ($p < .05$). We limit our presentation of results to those that attain statistical significance ($p < .05$). Just because a result is statistically significant, however, does not mean it is large or important. Researchers talk about the size of an effect as a measure of its importance (Bakeman, 2006). Unless otherwise noted, we used Cohen's *d* to assess effect sizes (Cohen, 1988). An effect size of .20 or lower is generally considered small, .50 moderate, and .80 and above large. According to Slavin (1990), effect sizes of .25 and higher are considered educationally significant.

For readability purposes, we do not present the statistics themselves in the body of the report but rather provide primary analyses in appendices. Also, to increase readability, the primary data and figures in the main text include only percentages and means; standard deviations and effect sizes are provided in the appendices.

Although the data were collected from staff and parents in six different WIC centers, we conducted analyses comparing results across centers and found no consistent patterns of differences.¹ Therefore, we did not further consider, and will not report analyses broken down by site. In addition, according to information given to us by the directors of the participating WIC centers at least 23 different languages were spoken by families, with English as the most common language and Spanish a distant second. We compared English to non-English languages and found no consistent interpretable differences. Therefore, we do not discuss this further. Instead all analyses are based on the entire sample of respondents, unless we state differently.

Another factor to be aware of is that not all parents who responded to the Time 1 parent questionnaire ($N = 233$) completed the Time 2 parent questionnaire ($N = 158$). Therefore, the sample sizes for analyses vary based on which questionnaire the items were in. Moreover, as is common, the number of parents responding to any of the items within the questionnaires differed slightly either because they accidentally or purposely skipped a question. This often occurs in other studies (e.g., Stites et al., 2021) and is not a source of concern.

As mentioned previously, the remainder of this report is divided into three parts. We begin with the observations in the WIC waiting rooms (Part 1), then in Part 2 we discuss parents' knowledge and pertinent behaviors, and conclude with information collected from WIC staff members. Part 3 focuses on responses from the parents related to COVID-19.

¹ For some items there was not enough variability in response options to provide a meaningful interpretation of possible differences between centers. This may be possible with a larger sample size.

PART 1: CHILDREN'S WAITING ROOM ACTIVITIES

OBSERVATION METHOD

Thirteen trained observers, 11 undergraduates and 2 graduate students, observed in the 6 WIC centers. Prior to conducting the actual observations, all observers received at least two days of training, one in our lab and one or more on-site. Such training is needed to ensure that each observer is using the same definitions when doing the actual observations. To ensure that the training has been beneficial, one calculates interrater reliability, that is, compares the observations of the various coders. We compared observations done at a WIC center by each of 12 coders with a designated primary coder. The observation protocol included eleven activity categories (see Appendix B).

Observers and the primary coder observed in a WIC waiting room for twenty minutes, marking any activity in which children were engaged. Comparisons of activities observed indicated that observers' responses matched the primary coder at least 80% of the time (range 80-100%). This is considered an acceptable level of agreement (Pianta et al., 2008). Discrepancies were discussed and determined to be caused by differing perspectives based on the location of each observer within the waiting room, rather than disagreements in the definition of each activity.

Our goal was to observe for 40 hours, spread across a three-week period in January 2020, in each of the six centers. We generally observed each center for 40 hours (with one or two exceptions due to closures of the centers; in those cases, we observed 39 hours). Slight modifications of observation schedules were made based on hours the centers were open to clients (e.g., to account for staff meetings, lunch breaks, federal holidays, etc.) and the availability of the observers. Modifications were also made to better capture waiting room behavior during high traffic times, as some clients were more likely to come during certain hours rather than throughout the day.

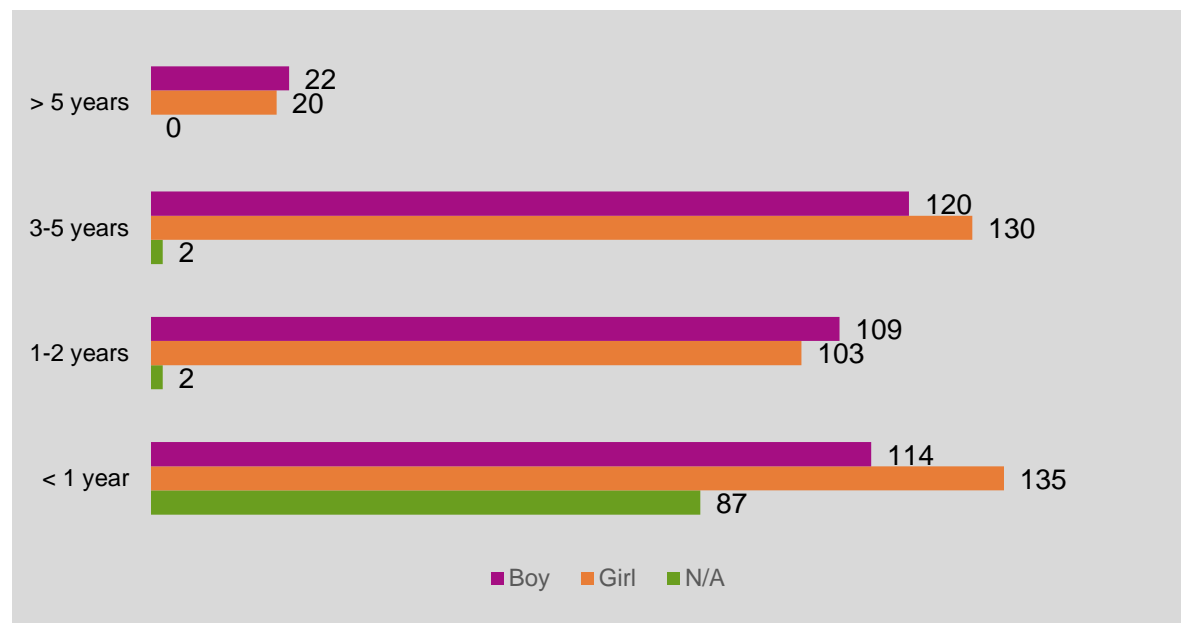
Research assistants observed in 20-minute blocks (18 minutes for observation and 2 minutes of narrative writing) using coding sheets. As shown in Appendix B, the observation coding sheet was designed to record the behaviors of children in the waiting room. Using the child level coding sheet, observers recorded information about each child, including observable demographic information such as estimated age, gender and race/ethnicity. The demographic information from these observations is "estimated" because the information was not corroborated with the child or their parents but rather based solely on the observers' assessments (e.g., knowledge of typical developmental growth trajectories and observation of phenotypic traits).

Observers tracked children's behaviors using the activity checklist and reported with whom the child engaged in each activity: the focal child, an adult or another child. Similarly, observers reported who initiated each activity: the focal child, an adult or another child. Any materials used were reported, as well as a brief narrative description of events occurring in the waiting room. Observers also recorded the time each child entered the waiting room, and the time they left, to track for how long each child was observed.

RESULTS

As depicted below in Figure 2, children observed in the WIC waiting rooms ($N = 848$) appeared to range in age from less than 1 year to about 5 years of age. About half were masculine presenting (e.g., clothing, hair, and/or behavior were similar to those of boys). About 54% of children appeared to be Black, 22% Latinx, 10% White, 4% Asian, and the remainder were other or multiracial.

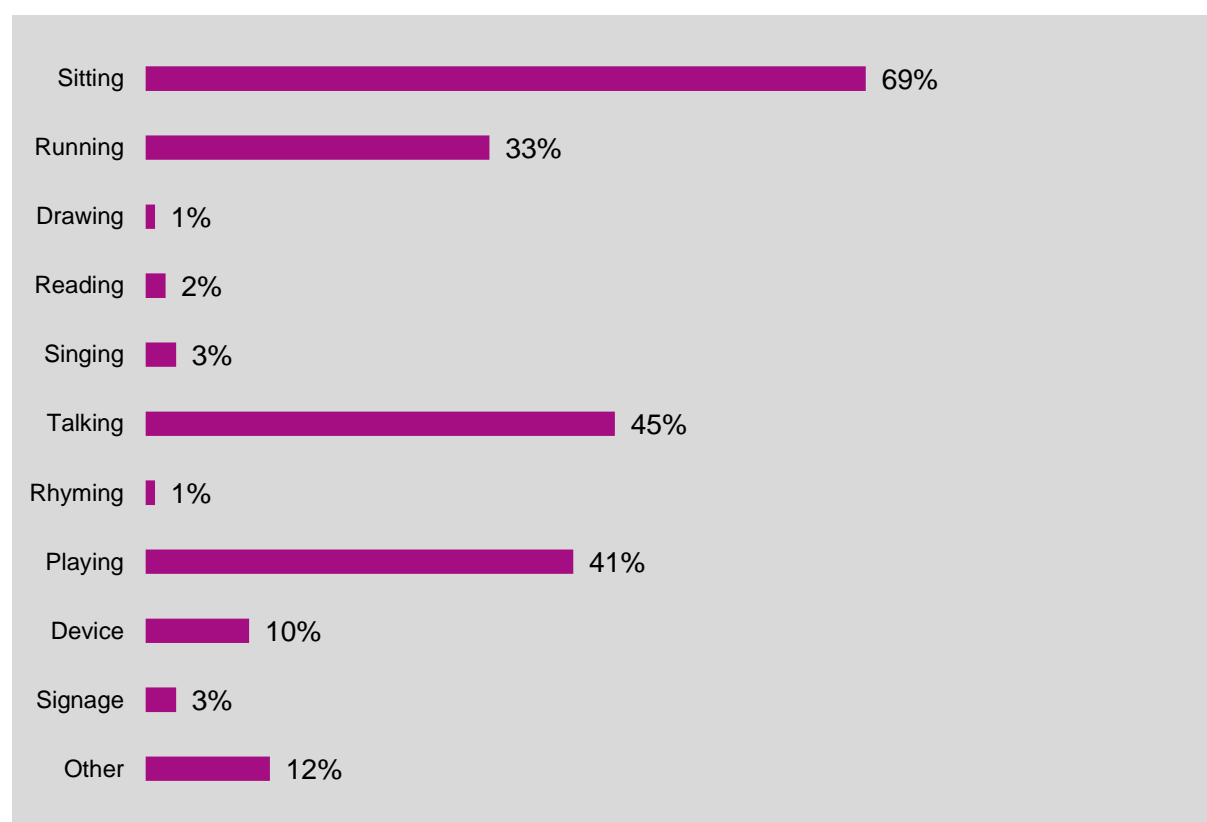
Figure 2
Estimated Demographic Information of Observed Children



Note. N/A indicates this information was not able to be determined by the observer.

Few of the observations appeared to be potentially literacy-relevant, which we defined as talking, singing, playing with devices, reading, playing rhyming games, writing/drawing, interacting with signage. The one exception was talking, about 45% of the focal children were observed talking (see Figure 3). Commonly observed less potentially literacy-relevant activities included playing (41% of observations), walking/running around (33% of observations), and sitting/being held (69% of observations).

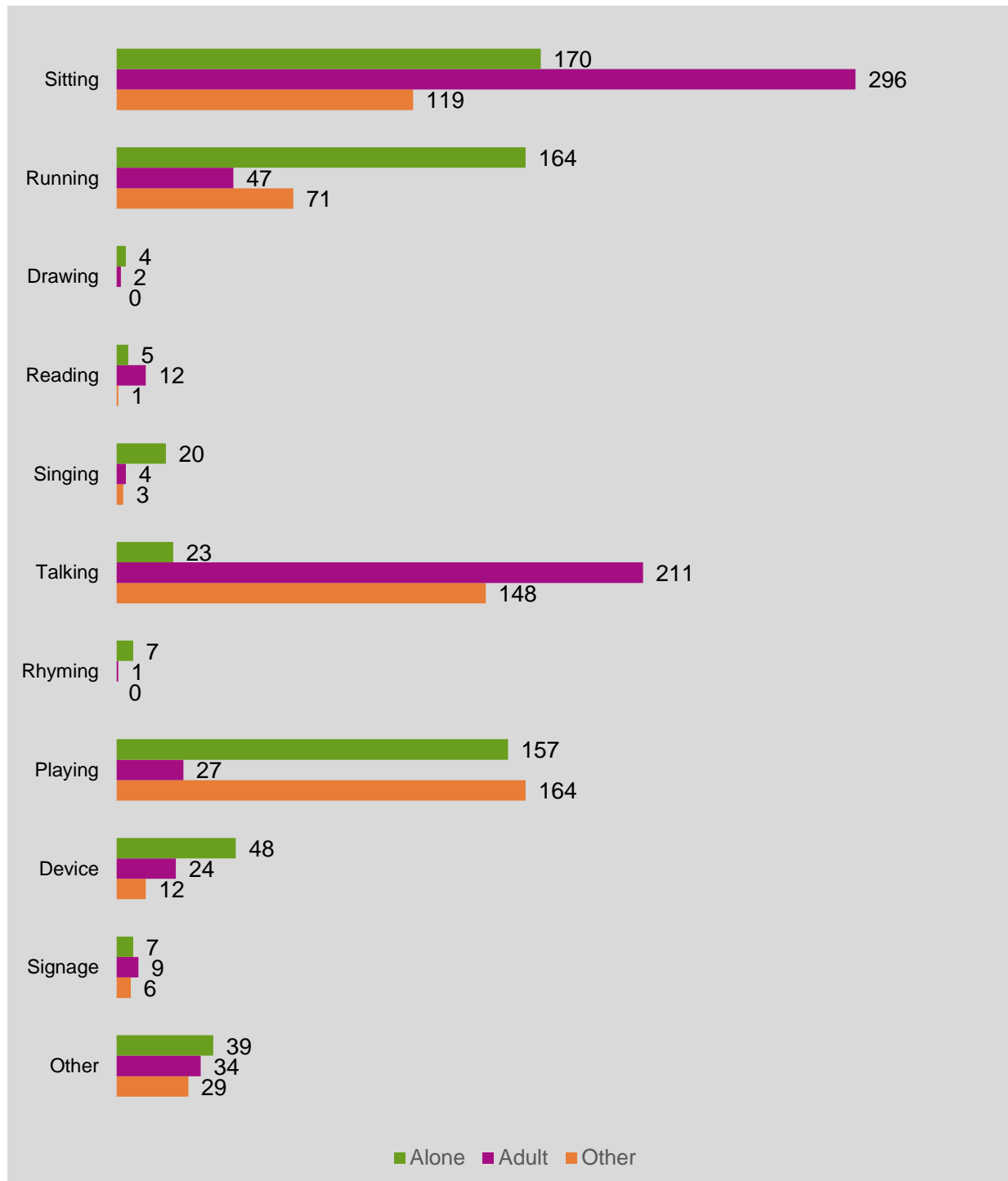
Figure 3
Observed Activities Children Engaged in



Note. Sitting included sitting in a chair or parent's lap, sitting/laying in a stroller or carrier, or being held. Running included walking, running, or dancing around. Device included interacting with a device of some sort, including the waiting room TV (if present), phones, tablets, and gaming devices. Signage represents when children interacted with posters, signs, or other images posted around the waiting room.

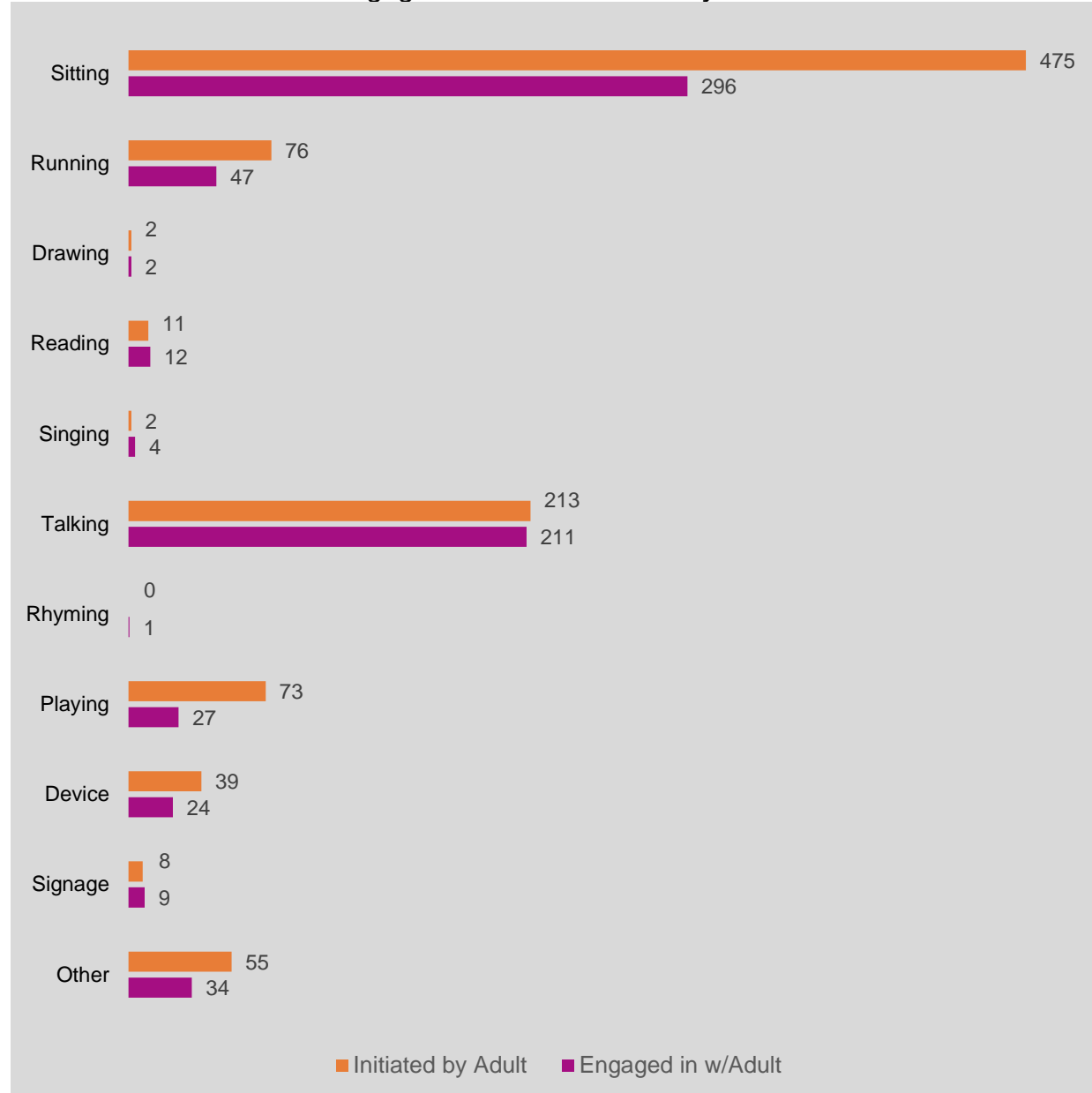
As depicted in Figure 4, most of the activities that children engaged in they did by themselves (6%-88% of the observed interactions) or with an adult (13%-67%). Activities engaged in with adults typically were literacy-related, although such activities did not occur often. These literacy-related activities, when they did occur, were often initiated by adults (8%-50% of the time). Figure 5 depicts the frequency children engaged in activities with adults and the frequency of adults initiating activities.

Figure 4
Observed Activities by Who Engaged in Them



Note. Sitting included sitting in a chair or parent's lap, sitting/laying in a stroller or carrier, or being held. Running included walking, running, or dancing around. Device included interacting with a device of some sort, including the waiting room TV (if present), phones, tablets, and gaming devices. Signage represents when children interacted with posters, signs, or other images posted around the waiting room.

Figure 5
Observed Activities Child Engaged in With or Initiated by Adults



Note. Parents could initiate more activities than they engaged in, depending on the nature of the prompt (e.g., “Sit over there” initiates an activity, sitting, but does not involve parents’ engagement in that activity).

PART 2: EFFECTS OF THE STAFF-LED INTERVENTION

PARENTS' KNOWLEDGE AND BEHAVIORS

The staff-led intervention was conducted by WIC center staff members when they met with their clients. These staff members had participated in training on the intervention led by TSTF staff at the end of January 2020 (see the Staff section for more details). When parents came to their appointments at WIC centers, staff members had a conversation with parents about the importance of talking, reading, singing with their children, and healthy eating. As part of the intervention, parents received a toolkit containing a tote bag, bib, placemat, tip sheet, music card, puppet, and a book.

Parents completed the Time 1 questionnaire when they met with staff members at the WIC centers. The Time 1 questionnaire (and Time 2 questionnaire) was available in English and Spanish and took about seven minutes to complete. The questionnaire had 15 questions (see Appendix C) which included:

- Demographic questions
- Questions about how much parents knew, before and after speaking with WIC staff, about the importance of talking, reading, singing with their children, healthy eating, and their role in their children's development. Response options fell on a three-point scale with higher scores indicating more knowledge.
- Questions about the frequency in a typical week of the parent reading, singing, telling stories, saying nursery rhymes, and discussing signage with their child. Responses were scores on a 4-point scale from not at all to every day.
- Questions probing about the number of children's books, nonchildren's books, and other reading materials in the home, and how often the child saw the parent read.
- Questions on which items in the toolkit the parent intended to use.
- Questions about factors that interfered with parents' ability to easily come to the WIC center.

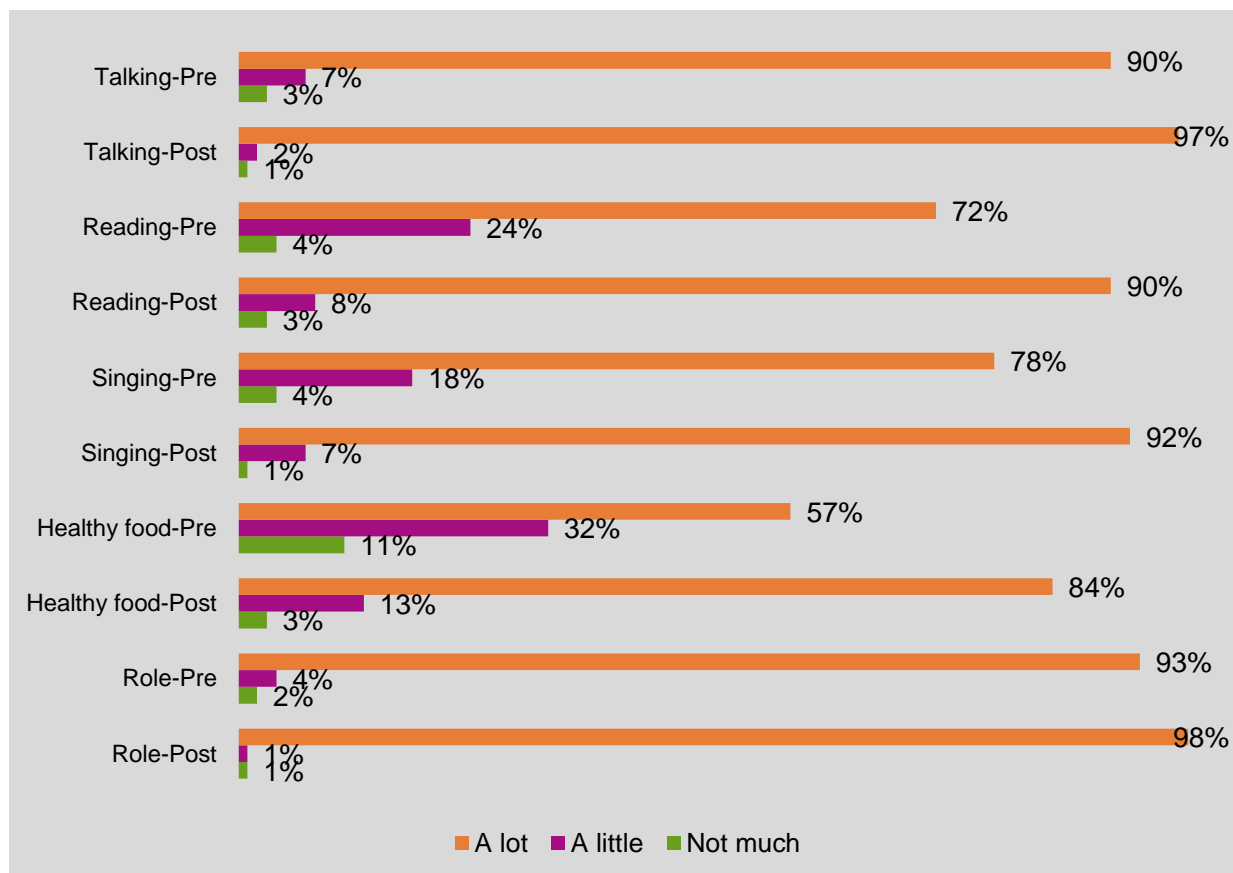
Our original plan before the onset of COVID-19 was to implement the intervention with 800 families proportionally distributed across the six WIC centers. Paper and pencil versions of the Time 1 questionnaire, in English and Spanish, were dropped off at the various centers by members of the evaluation team in the middle of February 2020. However, the intervention was abruptly terminated due to COVID-19 in the middle of March 2020. Two hundred thirty-three families had received the intervention and completed the Time 1 questionnaire by that time. About 35% of people completing the questionnaire were mothers, another 13% wrote in that they were head of household, and 49% did not report their relation to the focal child/children on the questionnaire. The

relatively few remaining respondents were fathers, foster parents, or grandparents. Ninety-three percent of the respondents were female. About 52% of the respondents were Black, 26% were Latinx, 17% were White, 7% were Asian, and the remainder were other. Most of the questionnaires were completed in English but a few were completed in Spanish or another language.

HOW MUCH PARENTS KNEW ABOUT THE IMPORTANCE OF LITERACY-RELATED ACTIVITIES

As shown in Figure 6, many parents reported knowing a lot about literacy-related activities even before the intervention, although this varied across types of activities. **Ninety percent reportedly knew a lot about the importance of talking with their children before the intervention; 72% knew about the importance of reading with their children; and 78% knew about the importance of singing with their children. And, 93% knew a lot about their role in their child’s development. In contrast, only about half the parents (57%) knew about the importance of talking with their children about healthy eating.**

Figure 6
Parents’ Knowledge of the Importance of Literacy Activities at Time 1



Note. Percentages may not equal 100 due to rounding. Pre = before staff-led intervention; post = after staff-led intervention.

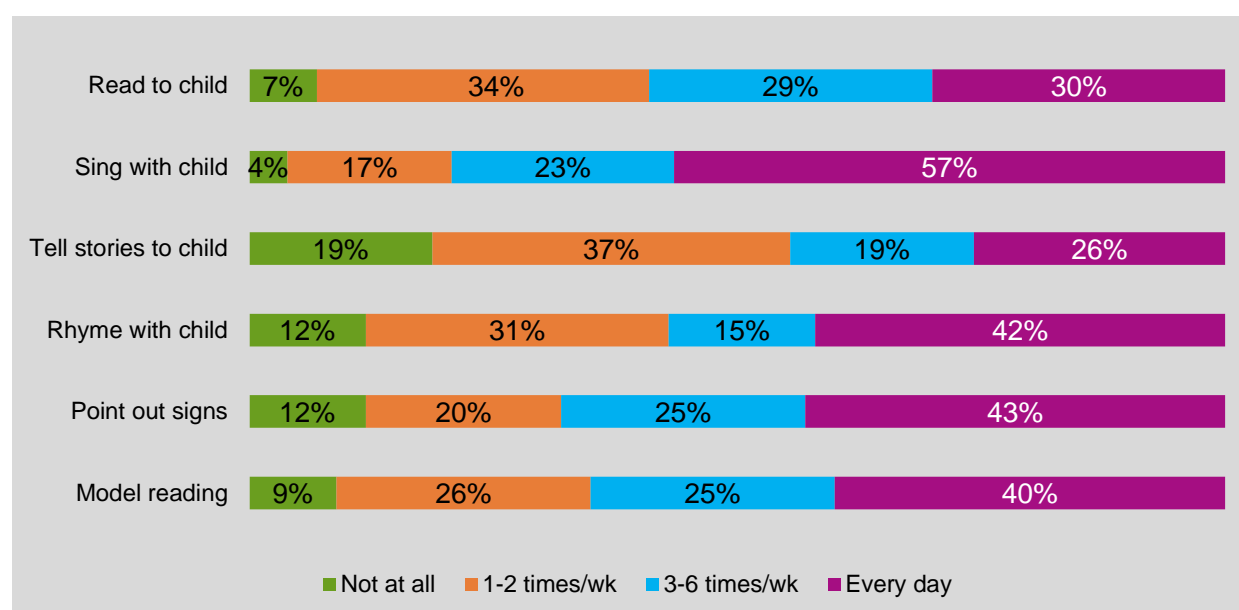
Despite many parents reportedly knowing a lot about these topics before the intervention, significantly more parents reported knowing a lot about all of these areas after the intervention. Effect sizes varied from small (talking, role in child's development), small to moderate (reading, singing), and moderate (healthy eating; see Table A3 in Appendix A).

HOW FREQUENTLY PARENTS REPORTED ENGAGING IN OR MODELING LITERACY-RELATED ACTIVITIES

Experts in the field (e.g., Serpell et al., 2005) generally recommend that children engage in daily literacy activities. Parents are important role models for their children. Children who see their parents engage in literacy-related activities are more likely to do the same (Serpell et al., 2005; Sonnenschein et al., 2016). This, in turn, should foster children's literacy development (Sonnenschein et al., 2016).

Figure 7 shows the percentage of parents who reported engagement in or modeling of literacy-related activities in a typical week. Functionally, this meant prior to the intervention that the parents had just received. The percentage of WIC parents who reported daily engagement varied across activities: from 57% (singing) to 26% (telling stories). **Many additional families reported engaging in activities three to six times per week (from 15% to 29%). Forty percent of the parents reported that their children saw them look at books or printed materials every day; another 25% said this occurred three to six times a week.** And nine percent said it never occurred.

Figure 7
Parents' Time 1 Frequency of Engaging in or Modeling Literacy-Related Activities



The least commonly occurring activities were telling stories and rhyming with children. In addition, some parents indicated that they and their children did not engage in such literacy activities at all (from 4% for singing to 19% for telling stories). We cannot definitively say why but this may be due to lack of books at home, the age of the child, parents' schedules, and other demands on their time. Other researchers have found that not all parents are aware of the need to provide a literacy-rich environment, especially for infants (Shanty et al., 2019).

NUMBER OF BOOKS IN HOUSEHOLD

Research shows that having easy access to books and printed matter in the household is positively associated with children's development (see Whitehurst & Lonigan, 1998, for a review of this topic). Having access allows children to easily engage with books and it allows them to see their parents do so (serve as positive role models). We asked parents how many children's books they had in their household, how many books not including children's books they had, and how many other reading materials they had. These could be digital or hard copy. We only included quantifiable responses in our analyses. That is, we did not include "a lot, not many" and so on. If the parent said 10-20, we noted the response as 15. **On average, parents had about 16 children's books ($M = 15.55$), 18 nonchildren's books ($M = 17.73$), and 7 other types of reading materials ($M = 7.2$). About four percent of the families reported having no children's books, nine percent had no nonchildren's books, and 23% had no other types of reading materials.**

TOOLKIT

Parents ($N = 230$) reported that they thought they would use at least one item included in the toolkit. **The most frequently selected items were the book (92% of parents reported they planned to use this item) and the tote bag (78% of parents). A majority of parents also planned to use the bib (71% of parents) and placemat (71% parents).** Although intended use of items is important, whether parents actually used these items and how useful they found them is more informative; please refer to the "Toolkit Use and Usefulness" section on p. 28 of this report for this information.

BARRIERS TO COMING TO WIC CENTERS

To determine whether parents experienced barriers coming to WIC centers, parents were asked "*Does anything prevent you from coming to a WIC center?*". If parents responded yes ($N = 19$), they were asked a series of follow-up questions about possible barriers they might experience (e.g., transportation, time). Although parents who responded no to that question were not supposed to be prompted to answer the follow-up questions, nevertheless, 26 of these parents answered them. As such, **a total of 45 parents reported on items reflecting what prevents them from coming to WIC centers. The most common barriers were time conflicts ($n = 21$) and transportation ($n = 21$).** This suggests about 43% of the respondents who reported barriers selected one of these items. Other barriers included access to childcare ($n = 5$) and language barriers ($n = 9$).

STAFF MEMBERS' PERSPECTIVES OF THE INTERVENTION

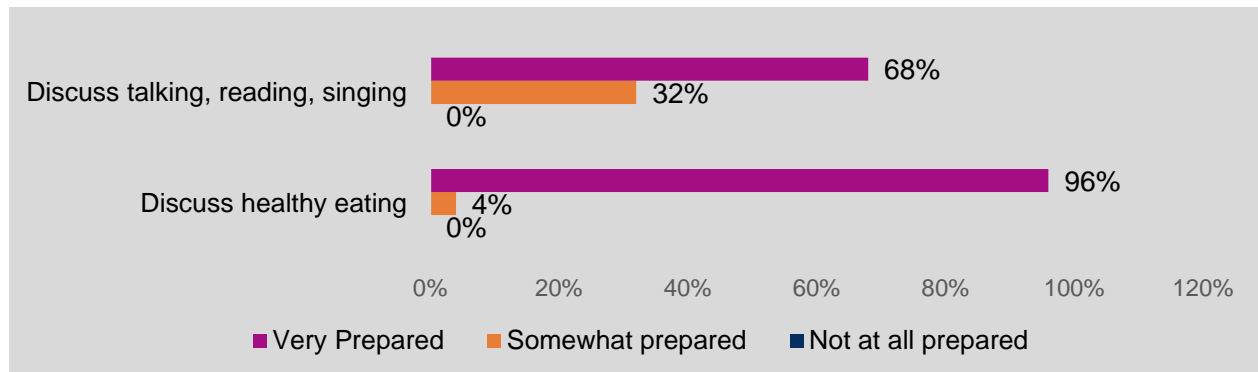
Online survey data (14 questions; see Appendix D) were collected from Baltimore City and Baltimore County WIC Center staff members towards the end of April 2020 to understand how the intervention prepared them to discuss talking, reading, singing and healthy eating with their clients and their perception of the intervention and its impact (e.g., if they thought parents would use the tote bags or if were interested in the items; and how the intervention supported WIC staff). WIC center directors identified 24 staff members who were involved in the intervention to be asked to take the staff survey; twenty-two of these 24 staff members participated. The majority of the staff members were female ($n = 20$), and half self-reported their race/ethnicity as White ($n = 11$). The remainder were Black/African American ($n = 8$), Latinx ($n = 2$) or other ($n = 1$). Staff members reported that they had worked at their respective WIC Center for between two and forty-two years ($M = 11.02$ years).

Staff members were asked to rate how prepared they felt to discuss talking, reading, and singing, as well as healthy eating with parents participating in the evaluation (e.g., their clients). Both items were on a three-point scale, with a higher score indicating that the staff member felt more prepared to discuss these topics. Participants also were asked whether their clients who received the TSTF toolkit and educational conversation with them learned something new. Responses fell on a three-point scale, with higher scores indicating clients did learn something new. Additionally, participants were asked to share whether they thought their clients planned to use the items in the toolkit.

DID THE TRAINING SESSION SUFFICIENTLY PREPARE STAFF?

In general, the majority of staff members felt the training they received from TSTF prepared them to discuss the importance of talking, reading, singing, and healthy eating with their clients. **Sixty-eight percent reported being very prepared to discuss literacy-related behaviors, 32% were somewhat prepared. Ninety-six percent reported being very prepared to discuss healthy eating, about 4% felt somewhat prepared.** As depicted in Figure 8, no staff member reported feeling 'not at all prepared' to discuss these topics with parents.

Figure 8
Staffs' Feelings of Preparedness to Discuss Literacy and Health Topics with Parents

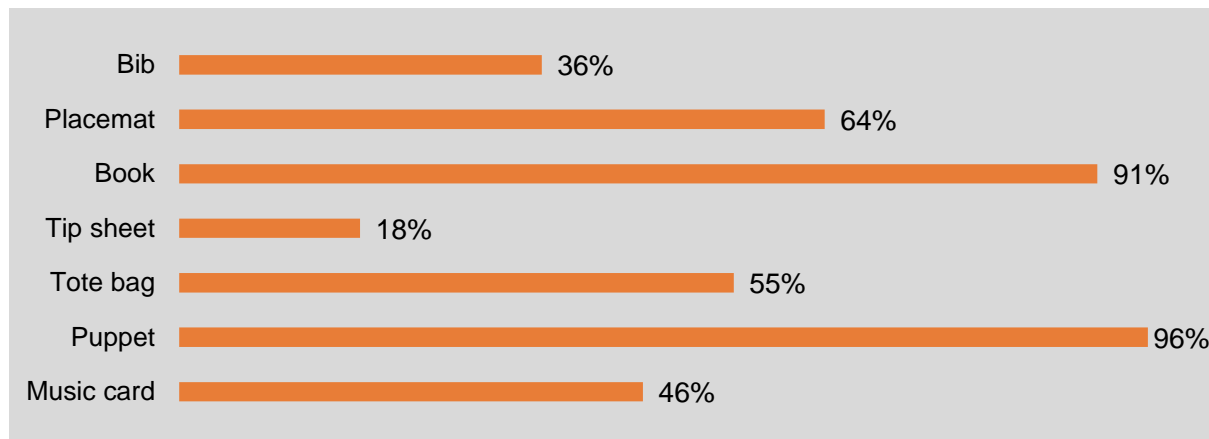


When asked, “What if anything would make you feel more prepared to discuss talking, reading, and singing with clients,” **36% of staff reported they would benefit from more training whereas 64% felt sufficiently prepared.** About 9% reported that they would like more training to discuss healthy eating whereas 91% felt they had received sufficient training.

PERCEIVED IMPACT OF STAFF-LED INTERVENTION

Most of the staff members reported that their clients learned a few things (82%) or a lot (14%) from the educational session. Only 1 staff member (about 4%) was not sure if the clients learned anything. As mentioned previously, in addition to the educational session, parents received a tote bag with several items in it. **All staff members (100%) thought parents planned to use the items in the tote bags.** **There was some variability, however, in which items staff thought parents seemed most interested in** (ranging from about 18% for the tip sheet to about 91% for the book; see Figure 9).

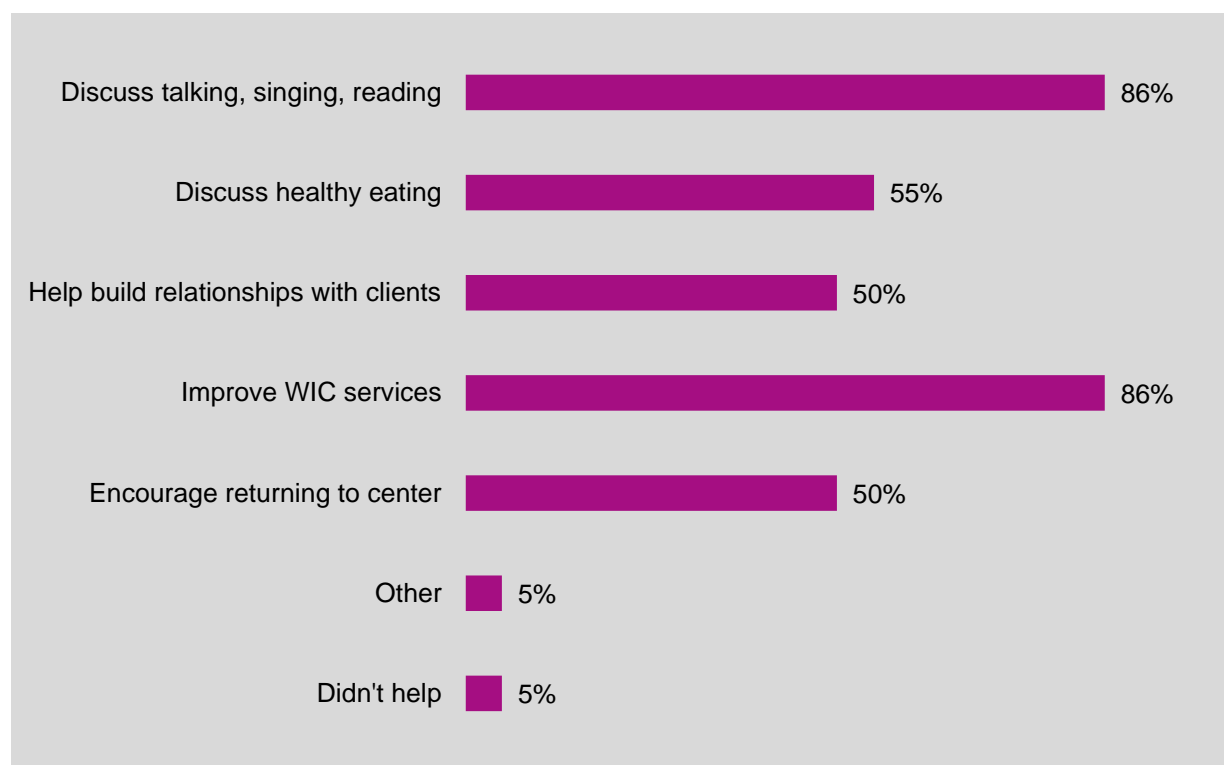
Figure 9
Percent of Staff Members Who Thought Parents Were Interested in Each Toolkit Item



HOW DID STAFF MEMBERS BENEFIT FROM PARTICIPATING IN THE INTERVENTION?

Staff members viewed their participation in the intervention as beneficial to themselves and, consequently, to their clients. **About half the staff members (50%) reported that it helped improve their relations with their clients, 86% said it improved service delivery, 50% said it helped them encourage their clients to return to the WIC centers, 86% it helped them have conversations about the importance of talking, singing, and reading with children, and 55% said it helped them discuss healthy eating.** Only one staff member did not find that the training information was beneficial (see Figure 10).

Figure 10
Staffs' Perceptions on How the Intervention Helped Them



Note. One staff selected “other” and in their explanation stated the intervention is a “tool for children who were struggling with speech.” This staff also had indicated it helped them discuss talking, singing, and reading with parents. These responses together suggest the staff saw the intervention as a useful tool for them to discuss literacy, in general, but also saw its possible utility for specific concerns parents may have.

PART 3: THE EFFECTS OF COVID-19

INTERVENTION FOLLOW-UP

About three months after parents completed the Time 1 questionnaire, they were asked to complete the Time 2 questionnaire. The timing was meant to be after the Family Reading, Talking, and Singing library had been installed in the centers and when families were generally due for their next visit. As has been noted, COVID-19 led to modifications in the original evaluation plan. There was no permanent installation of the libraries in WIC waiting rooms and most families were provided WIC services remotely. To adapt to the new remote operations, the Time 2 questionnaire was adapted to be completed digitally using Qualtrics. Data collection of the Time 2 questionnaire began at the end of May 2020 and closed at the end of June 2020. A few parents completed the survey with the assistance of LanguageLine, a translation service.

The three overarching purposes of the Time 2 questionnaire was to:

1. Determine whether parents used the toolkit materials and found them useful.
2. Learn whether and how COVID-19 interfered with the parents' literacy-related interactions with their children.
3. Identify whether parents desired any resources during the pandemic.

The Time 2 questionnaire consisted of 32 questions (see Appendix E), some of which had been on the Time 1 questionnaire. Parents were asked whether they remembered the intervention, whether they used the items in the toolkit and how useful they found them, and what other items would have been useful. They also were asked how frequently they engaged in literacy activities and whether they were reading, singing, talking more with their children since their last visit to the WIC center. In addition, they were asked whether COVID-19 interfered with their ability to engage in such behaviors.

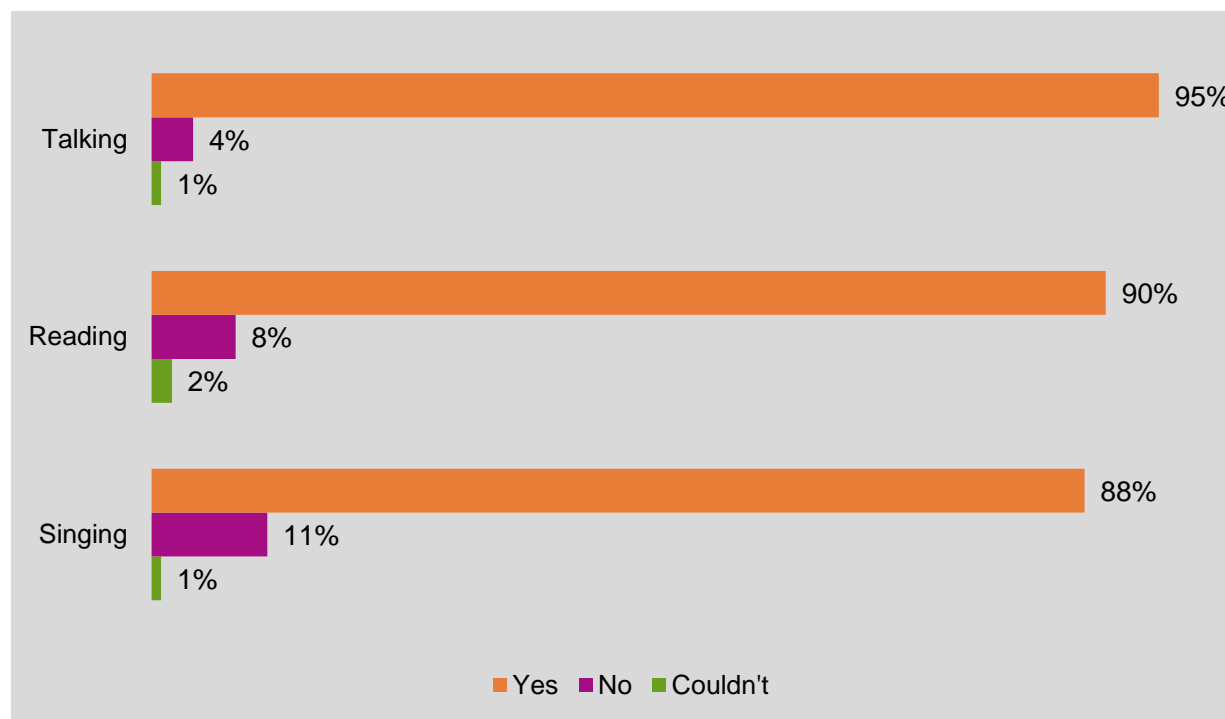
One hundred and sixty-nine parents completed the Time 2 questionnaire. This was a subset of the 233 who completed parent questionnaire 1. Of the 169, 11 questionnaires were missing data on key items that enabled comparisons between Time 1 and Time 2 responses. This resulted in only 158 usable data points for Time 2.

PARENTS' SELF-REPORTED IMPACT OF THE STAFF-LED INTERVENTION

Ninety-eight percent of the parents said they recalled the discussion with a WIC staff member several months prior about the importance of engaging in literacy behaviors (e.g., the staff-led intervention). This question was asked to gauge whether parents could reliably report whether their literacy-related behaviors had changed as a result of that discussion. If parents recalled discussing talking, singing, and reading with a WIC staff member, they were asked whether their literacy-related activities (e.g., talking, reading, and singing) had increased because of what they had learned in their prior visit to WIC. Parents were also asked whether COVID-19 had interfered with their plans to engage in these activities.

Ninety-five percent of parents reported talking more with their children, 90% reading more, and 89% singing more (see Figure 11). Very few people reported that COVID-19 had interfered with their doing any of these activities.

Figure 11
Impact of Staff-Led Intervention as Reported by Parents

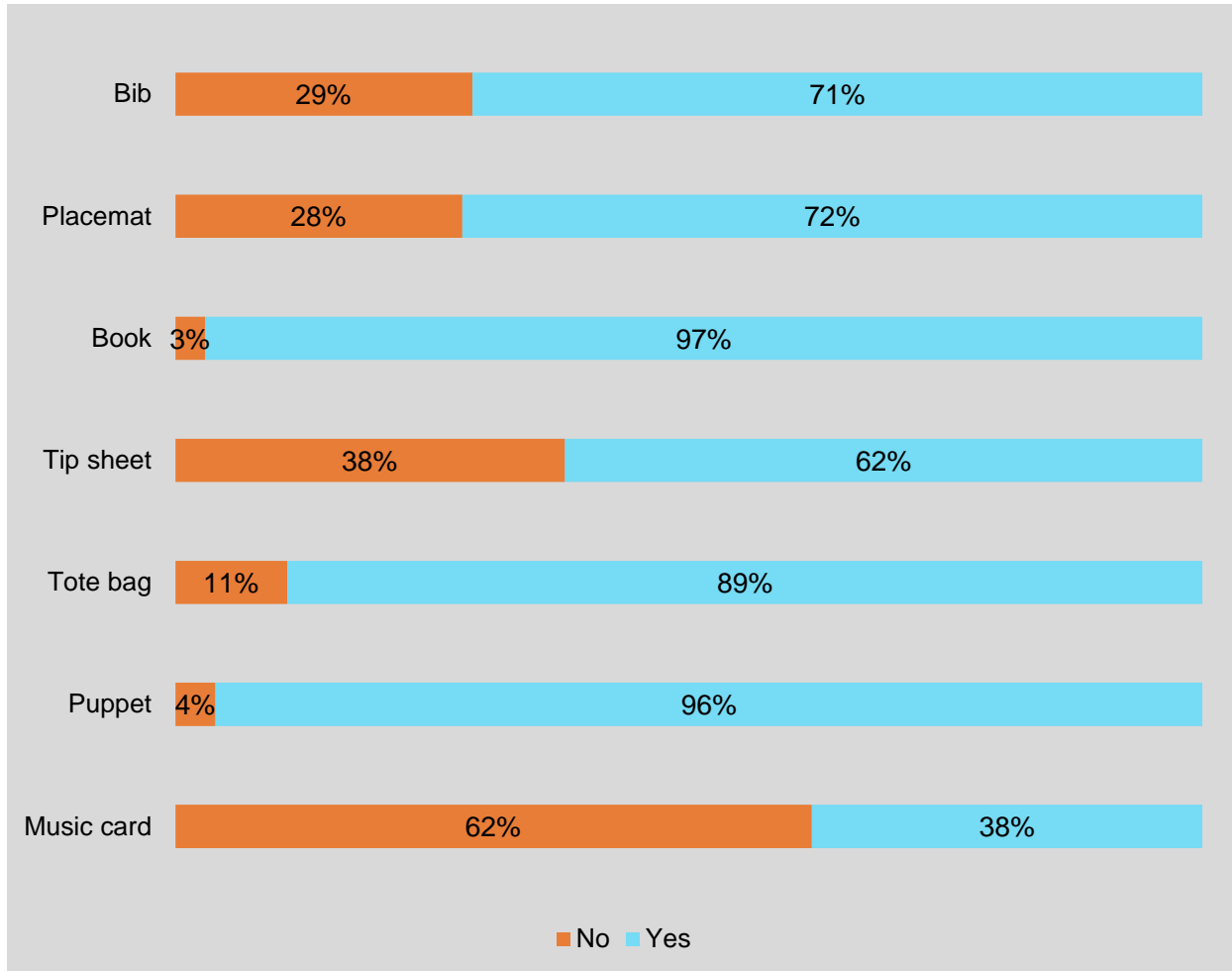


Note. Couldn't represents "I wanted to but couldn't due to COVID-19."

TOOLKIT USE AND USEFULNESS

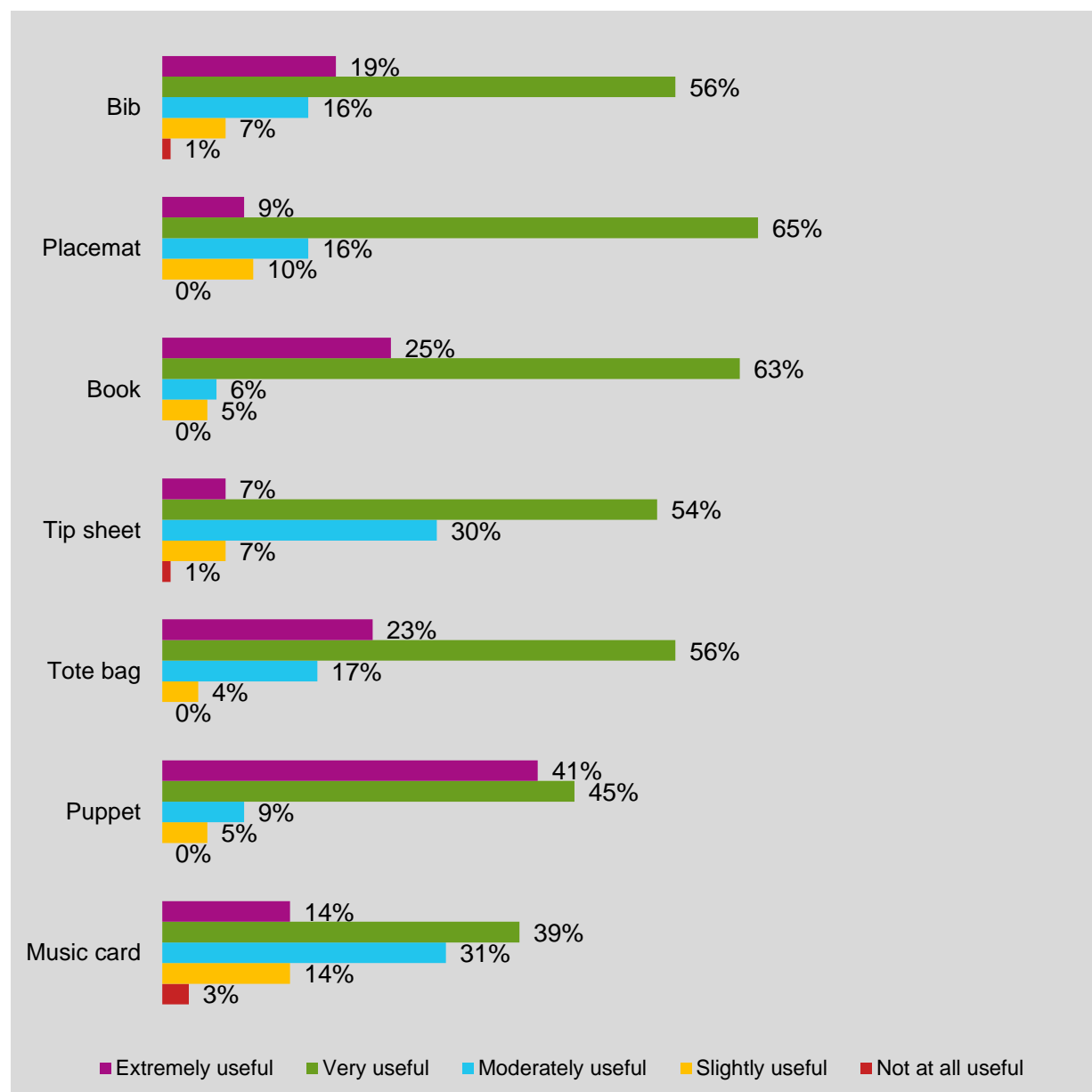
Almost all parents reported using the tote bags (89%) and the puppet and book (96%, respectively). About 71% used the bib, 72% used the placemat, 62% used the tip sheet, and 38% used the music card (see Figure 12).

Figure 12
Frequency of Parents Who Reported Using Each Toolkit Item



Of those who responded that they used the items, **the majority of parents reported finding the items in the toolkit very or extremely useful (about 63% for the music card to about 88% for the puppet).** Figure 13 displays how useful parents found each item in the toolkit.

Figure 13
Parents' Reports of Toolkit Items' Usefulness



Note. Parents who did not use a toolkit item were not asked how useful the item was, which resulted in varying sample sizes for the items. Bib $n = 110$; placemat $n = 111$; book $n = 150$; tip sheet $n = 96$; tote bag $n = 138$; puppet $n = 149$; music card $n = 59$.

Parents also were asked whether there were any other items they would have found useful to include in the toolkit (see Appendix F). Many parents (53%) reported they did not have suggestions of items to add, with some indicating they were satisfied enough with the items already in the toolkit. **Of the parents who had suggestions, the most common responses were books or other educational materials ($n = 35$), toys and games ($n = 16$), food-related items (e.g., eating utensils, $n = 20$).** Below are some excerpts of parents' responses, relayed by WIC staff members:

"Feeding spoon or set with fork"

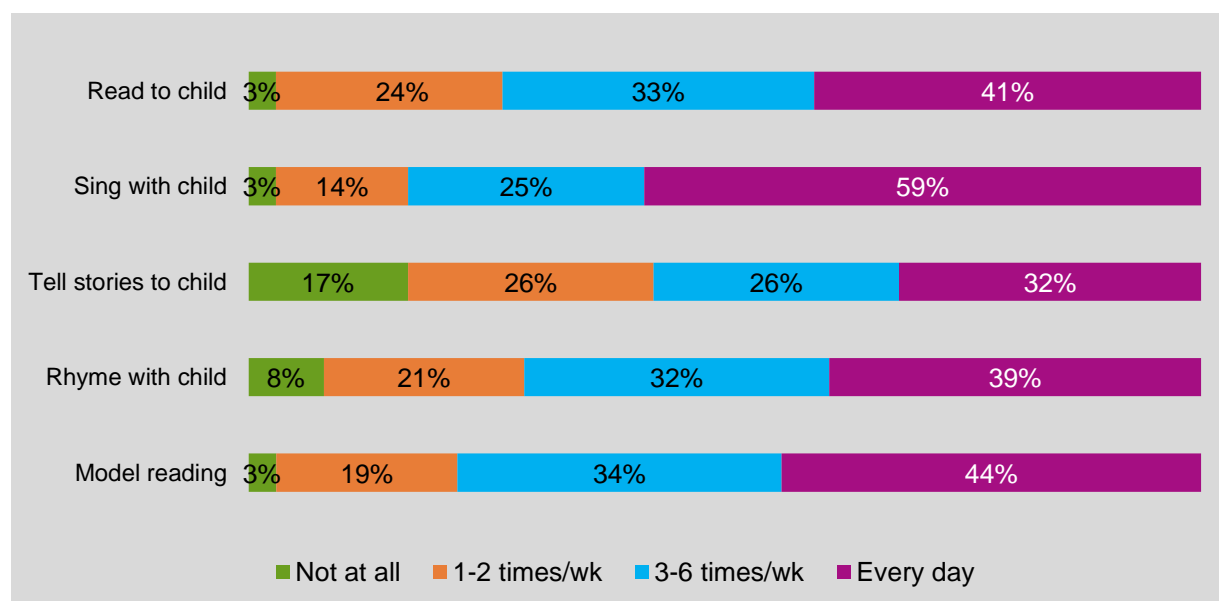
"More hands-on educational materials"

"Sensory and interactive items"

LITERACY-RELATED ACTIVITIES

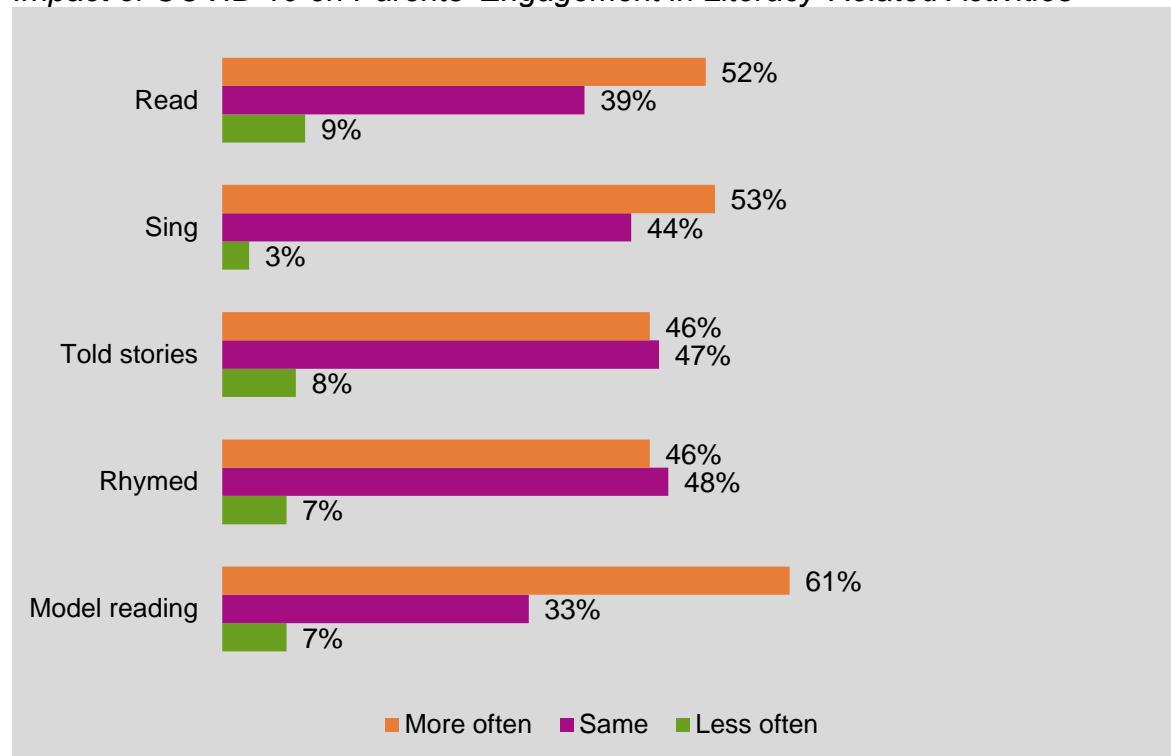
Parents were asked about the frequency of various literacy-related activities (similar to what was asked in Time 1) and whether these occurred more or less frequently since COVID-19. **Seventy-four percent reported that they read with their child at least three times a week** (of these 41% did so every day; see Figure 14). **Eighty-four percent reported singing at least three times a week** (of these 59% did so every day). **Fifty-eight percent told stories with their children at least three times a week** (of those 32% did so every day). **Seventy-one percent recited nursery rhymes with their children at least three times a week** (of those 39% did so every day). In addition, **78% of the families said their children saw them read or look at other reading materials at home at least three times a week** (of those 44% said this occurred every day).

Figure 14
Parents' Time 2 Frequency of Engaging in or Modeling Literacy-Related Activities



Although this varied somewhat across activities, about half the parents reported that their and their children's engagement with literacy-related activities increased since COVID-19. About 30-40% thought the amount of such activities remained the same. Few reported a decrease in activities (displayed in green in Figure 15).

Figure 15
Impact of COVID-19 on Parents' Engagement in Literacy-Related Activities



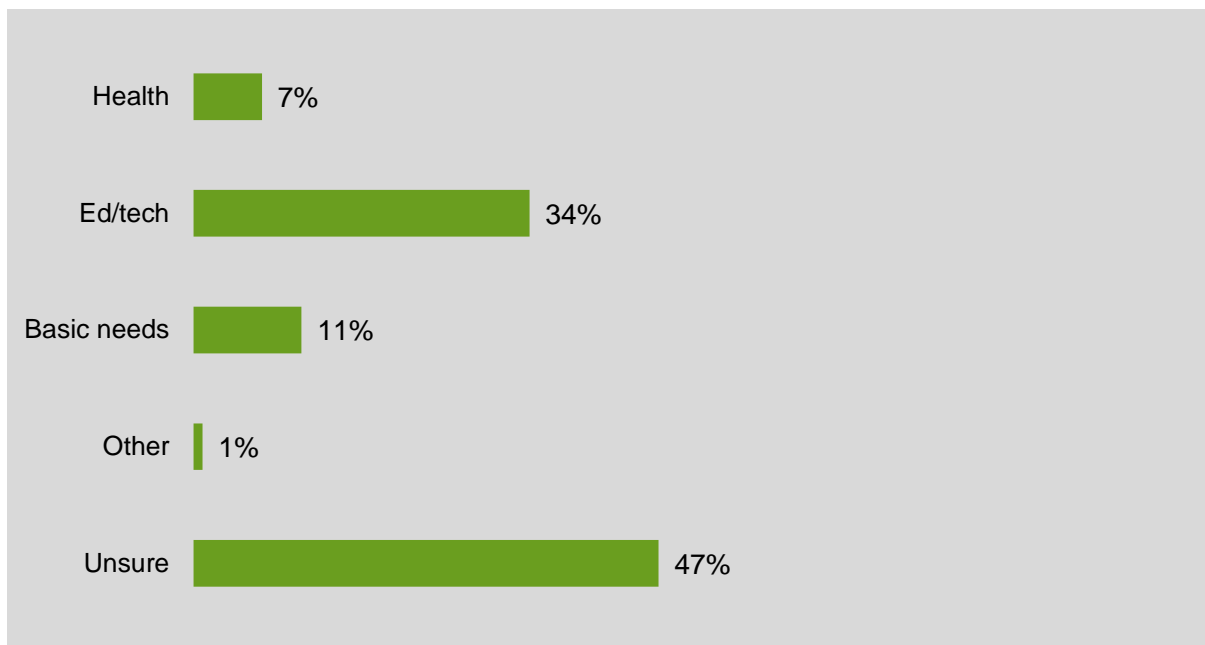
Note. Parents reported on whether they engaged in the activity more often since COVID-19, less often since COVID-19, or about the same about as before COVID-19.

We compared the frequency of responses to the Time 1 and 2 parent questionnaires for the various literacy activities. There were two statistically significant differences (see Table A4 in Appendix A). **Parents reportedly read more frequently with their children and served as role models of literacy engagement more frequently at Time 2 than Time 1.** The effect sizes were small and small to moderate (respectively). However, both effect sizes were consistent with an educationally meaningful effect.

DESIRED RESOURCES

Parents were asked an open-ended question about what resources they thought would be helpful to them during the COVID-19 crisis. Forty-five percent of parents said they would like to learn about or receive resources. Parents' responses (see Appendix G) were categorized by the evaluators into the overarching categories of health, education/technology, basic needs, other, and unsure. Figure 16 depicts the frequencies for each of these categories.

Figure 16
Helpful Resources for Parents During COVID-19



Note. Percentages reflect the total number of parents who thought receiving resources would be helpful ($n = 74$). Unsure = parents who said they would like resources but did not, or could not, elaborate on what resource(s) would be helpful to them.

Of those parents who indicated that they would like to receive resources, the most commonly mentioned types were educational and technology resources. Example resources parents mentioned included:



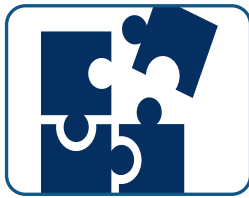
Health

- Teething babies
- Potty training
- Children washing hands



Education and Technology

- Hands-on educational resources
- Access to books due to library closure
- Using the computer
- Cellular/internet access



Basic needs

- Food pantry
- Specific food items (e.g., milk)
- Baby supplies (diapers, wipes, clothing)

GENERAL CONCLUSION

Consistent with what has been found in other evaluations of the “Talking is Teaching” initiative:

- **Parents’ knowledge about relevant literacy behaviors and healthy eating behaviors increased after the intervention.**
- **Parents’ literacy-related interactions with their children increased after the intervention.**
- Parents found the items in the toolkits useful. **More than 60% of the parents found these items very or extremely useful: tip sheets (61%), bibs (65%), placemats (74%), tote bags (79%), puppet (86%), book (88%). The music card was found very to extremely useful by 53% of the parents.**
- **Most staff members thought the intervention improved at least one aspect of their work.** These findings are important because they suggest that the program is one that could be implemented in and beneficial to WIC centers around the country.

A key component of the evaluation was to have been the installation of Family Read, Play, and Learn centers in WIC waiting rooms. The purpose of this was to have increased the availability of literacy artifacts in spaces that families spend time in. As noted, the COVID-19 pandemic prevented the installation.

- The baseline observations we conducted suggest that, **in general, children in WIC waiting rooms, as they currently are set up, do not engage in much of the way of literacy-relevant activities.**
- It is important to note, however, that **families expressed interest in literacy materials by requesting more books in their tote bags and indicating that they wanted educational resources** when asked about which resources they might need during the current crisis.
- Taken together, **these results suggest that the installation of Family Read, Play, and Learn centers, if feasible, is warranted and may be well- received by parents visiting the WIC waiting rooms.** If installation of these centers is not feasible, another means of providing families with access to literacy artifacts should be considered.

LIMITATIONS AND RECOMMENDATIONS

The purpose of installing the Family Read, Play, and Learn centers was to increase families' exposure to literacy artifacts in spaces they spend time in that often lack such artifacts. However, the COVID-19 pandemic has changed the dynamics of how many families visit and interact with such spaces. Many parents in this evaluation used items in the toolkit and several requested access to additional educational resources. Therefore, developing a means through which families could receive such resources would be useful.

All research and evaluations have limitations, as does this one. We describe these limitations below. However, despite the limitations, we think the results we obtained are valid.

- We cannot infer causal relations between the literacy intervention and the changes in parents' knowledge and behaviors as this was a correlational study. We did not conduct a true experiment where parents were randomly assigned to different conditions, one an intervention condition and one a control condition. On the other hand, our results are consistent with that found in other literacy interventions conducted by TSTF. The replication of former evaluation findings lends credence to the results of this evaluation and vice versa. However, future evaluations of this initiative should consider using a control group (e.g., families receive neither the staff-led intervention or access to the Family Read, Play, and Learn centers).
- The parent data were all self-reports and therefore subject to potential bias. That is, parents may have misremembered and hence misrepresented how frequently activities occurred or tried to present themselves in a positive light. In the case of this evaluation, it would mean that parents overestimated how frequently they engaged in activities. Although we have no reason to suspect that parents purposely misreported information, it is worth noting.
- We did not see the actual conversations that staff reported having with parents about the importance of literacy interactions. Therefore, there may have been variability across staff members in how well the intervention was implemented.
- This evaluation focused on quantity of literacy-relevant activities as opposed to the quality of such interactions when they occur. For instance, talking was a commonly observed literacy-relevant activity in waiting rooms. Simple commands and conversational turns are both examples of talking, yet one exposes children to more vocabulary. However, due to the nature of waiting rooms (overlapping conversations, ambient noise) conversational turns were not feasible to capture in this evaluation. We also do not know when a parent said she read or sang with her child, what the actual quality of that interaction was. For example, certain forms of reading with children are more engaging than others and more likely to appeal to children and have better results (e.g., Sonnenschein & Munsterman, 2002).

- Prior research with a sample of WIC clients from Alameda, CA found differences in the literacy-related knowledge that different groups (English, Chinese, and Spanish families) displayed at the start of the intervention. Although such comparisons were beyond the scope of this evaluation (in part because of the sample size constraints brought upon by the pandemic), it is something to consider for the future. If different demographic groups have different baseline levels of literacy-related knowledge, these differences may suggest the need for interventions better titrated to the customs and mores of specific groups.
- Failure to complete or return surveys is a problem in this type of research, especially for longitudinal data such as we collected. Thus, researchers oversample to ensure that the final sample is sufficiently large to obtain meaningful results. We had intended to distribute tool kits to 800 parents at the six WIC centers but could not do so because of COVID. We received responses to parent questionnaire 1 from 233 parents; 158 of those parents responded to parent questionnaire 2. This is an excellent response rate. That is, 68% of the parents who responded to the parent questionnaire at Time 1 did so at Time 2. This is a higher response rate than the 26% response rate experienced by Alameda who obtained data from 885 parents at time 1 and 225 at time 2. Given that our results largely replicated those from Alameda and that we found statistically significant findings, we think our findings are valid.

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APPENDIX A: SAMPLE AND STATISTICS

Table A1
Parent Sample Information

Center	Target Sample*	Time 1 Sample**	Time 2 Sample
Baltimore City locations			
Cherry Hill	100	13	11
Johns Hopkins Hospital	170	34	18
Baltimore County locations			
Chartley	150	81	51
Eastern Family Resource Center	80	41	28
Lansdowne	100	44	36
Woodlawn	200	20	13
Center unknown			1
Total:	800	233	158

Note: *Target sample refers to the initial desired sample size for this evaluation. Due to COVID-19 the intervention was impacted such that no additional participants were recruited to participate after Maryland's stay-at-home order was issued. **The Time 1 sample was 1% American Indian/Alaska Native, 7% Asian, 65% Black/African American, 22% Latino/Hispanic, 13% White, and 1% other.

Table A2
*Parents' Demographic Information**

Center	Asian	Black	Latino/ Hispanic	White	Biracial
Baltimore City locations					
Cherry Hill	0	8	1	2	0
Johns Hopkins Hospital	1	16	1	0	0
Baltimore County locations					
Chartley	3	19	24	5	0
Eastern Family Resource Center	2	12	4	9	1
Lansdowne	6	5	13	11	1
Woodlawn	0	10	3	0	0
Total:	12 (8%)	70 (44%)	46 (29%)	27 (17%)	2 (1%)

Note: *Parents' demographic information is presented for parents who completed both Time 1 and Time 2 surveys.

Table A3

t-test Results Comparing Parents' Knowledge Before and After the Staff-Led Intervention

Activity	Time 1		Time 2		Analysis	<i>d</i> ^a
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Talking	2.87	0.40	2.95	0.27	$t(226) = 2.89, p < .01^*$	.19
Reading	2.69	0.54	2.86	0.41	$t(223) = 6.02, p < .001^*$	.40
Singing	2.74	0.52	2.92	0.31	$t(221) = 5.00, p < .001^*$	.34
Healthy eating	2.46	0.69	2.80	0.47	$t(224) = 8.44, p < .001^*$	.56
Role	2.91	0.35	2.97	0.22	$t(224) = 2.29, p < .05^{**}$	.15

*Denotes a statistically significant result

**Although this statistic is statistically significant, the item was highly skewed and this result should be interpreted with caution. As evidenced by the Time 1 and Time 2 means (2.91 and 2.97, respectively), both approached the maximum value possible for this item (3).

^a*d* is an effect size. An effect size of .20 or lower is generally considered small, .50 moderate, and .80 and above large. Effect sizes of .25 and higher are considered educationally significant

Table A4

t-test Results Comparing Parents' Frequency of Literacy Engagement at Time 1 and Time 2

Activity	Time 1		Time 2		Analysis	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Read	2.82	0.94	3.14	0.87	$t(153) = 3.66, p < .001^*$	.36
Sing	3.32	0.88	3.39	0.82	$t(153) = 1.17, p = .24$	.11
Stories	2.52	1.08	2.74	1.08	$t(152) = 1.38, p = .17$	.15
Rhyme	2.87	1.09	3.01	0.96	$t(154) = 1.66, p = .10$	.17
Model reading	2.97	1.01	3.18	0.86	$t(155) = 2.68, p < .01^*$	.27

*denotes a statistically significant result

APPENDIX B: OBSERVATION PROTOCOL

Table B1
Observation Coding Sheet

Child	Race/Eth.	Activity	Engaging in Activity With:	Initiated by:	Materials Used:
ID: Age: <input type="checkbox"/> < 1 yr. <input type="checkbox"/> 1 - 2 yrs. <input type="checkbox"/> 3 – 5 yrs. <input type="checkbox"/> > 5 yrs. Gender: <input type="checkbox"/> Boy <input type="checkbox"/> Girl <input type="checkbox"/> Unsure Time in: Time out:	<input type="checkbox"/> Asian	<input type="checkbox"/> Sitting/in carrier/being held	S A OC	C A OC	<input type="checkbox"/> None
	<input type="checkbox"/> Black/AA	<input type="checkbox"/> Running/walking/dancing	S A OC	C A OC	<input type="checkbox"/> Books
	<input type="checkbox"/> Latinx	<input type="checkbox"/> Drawing/writing	S A OC	C A OC	<input type="checkbox"/> Blocks
	<input type="checkbox"/> Middle E.	<input type="checkbox"/> Reading	S A OC	C A OC	<input type="checkbox"/> Puppets
	<input type="checkbox"/> White	<input type="checkbox"/> Singing	S A OC	C A OC	<input type="checkbox"/> Magnetic letters
	<input type="checkbox"/> Bi/Multi	<input type="checkbox"/> Talking	S A OC	C A OC	<input type="checkbox"/> Play food
	<input type="checkbox"/> Not sure	<input type="checkbox"/> Rhyming	S A OC	C A OC	<input type="checkbox"/> Posters/signs
		<input type="checkbox"/> Playing	S A OC	C A OC	<input type="checkbox"/> Device (phone/tablet)
		<input type="checkbox"/> Looking at device	S A OC	C A OC	<input type="checkbox"/> Writing utensil
		<input type="checkbox"/> Interacting w/signs	S A OC	C A OC	<input type="checkbox"/> Other:
		<input type="checkbox"/> Other:	S A OC	C A OC	
	Short Description:				

Note: S = self; A = adult; OC = other child

APPENDIX C: TIME 1 QUESTIONNAIRE (PARENT)

1. Before your visit today, how much did you know about the importance of: (Response options: Not much, a little, a lot)
 - a. Talking with your child
 - b. Reading with your child
 - c. Singing with your child
 - d. Talking with your child about healthy eating
 - e. Your role in your child's development
2. Now, how much do you know about the importance of: (Response options: Not much, a little, a lot)
 - a. Talking with your child
 - b. Reading with your child
 - c. Singing with your child
 - d. Talking with your child about healthy eating
 - e. Your role in your child's development
3. Which items from the tote bag will you use at home? Mark all that apply.
 - a. Bib
 - b. Placemat
 - c. Book
 - d. Talk, Read, and Sing Tote Bag
 - e. None, I don't plan to use any of the items
4. About how many children's books do you have at home? These can be either digital or hard copy.
5. About how many books, NOT including children's books, do you have at home? These can be either digital or hard copy.
6. About how many reading materials other than books (e.g., magazines, newspapers) do you have at home? These can be either digital or hard copy.
7. In a typical week, how often did you do each of the following activities? (*Response options: Not at all, 1-2 times a week, 3-6 times a week, every day*)
 - a. Read with your child
 - b. Sang a song with your child
 - c. Told stories with your child
 - d. Said nursery rhymes with your child
 - e. Pointed out signs and other print to your child (e.g., when you were at home, in the store, around the neighborhood)
8. In a typical week, how often does your child see you read or look at reading materials (books, newspapers, magazines, flyers)? (*Response options: Not at all, 1-2 times a week, 3-6 times a week, every day*)
9. Does anything prevent you from coming to a WIC Center?
 - a. Yes
 - b. No
 - c. don't know
10. I am going to list a few things that may or may not prevent you from coming to a WIC Center. Please let me know if any of these things prevent you from coming to WIC: (Response options: yes, no, not sure)
 - a. Time conflicts
 - b. Childcare
 - c. Transportation
 - d. Atmosphere of the center (e.g., don't feel welcome)

- e. Language barriers
 - f. Difficulty using WIC at the store
 - g. Other (please explain):
11. How likely are you to return to this WIC center because the center provided you with information and materials to help you talk, read, and sing with your child?
- a. Not much
 - b. A little
 - c. A lot
12. What is your gender?
- a. man, woman, genderqueer/nonbinary, prefer to not disclose, other)
13. What is your race/ethnicity? Mark all that apply.
- a. American Indian or Alaska Native
 - b. Asian
 - c. Black or African American
 - d. Latinx
 - e. Native Hawaiian or other Pacific Islander
 - f. White
 - g. Prefer not to disclose
 - h. Other
14. How old is your child? If you have more than one child, how old are each of your children?
15. How old are the children you brought with you to the WIC Center today?
- a. I did not bring any children with me today
 - b. Age(s):

APPENDIX D: STAFF QUESTIONNAIRE

1. How prepared did you feel to discuss with your clients the importance of talking, reading, and singing with their children? (very prepared, somewhat prepared, not at all prepared)
 - a. Very prepared
 - b. Somewhat prepared
 - c. Not at all prepared
2. What, if anything, would have made you feel even more prepared to talk with your clients about the importance of talking, reading, and singing with their children? Please mark all that apply.
 - a. More training
 - b. Nothing, I felt prepared
 - c. Other
3. How prepared did you feel to talk with your clients about the importance of healthy eating?
 - a. Very prepared
 - b. Somewhat prepared
 - c. Not at all prepared
4. What, if anything, would have made you feel even more prepared to talk with your clients about the importance of healthy eating? Please mark all that apply.
 - a. More training
 - b. Nothing, I felt prepared
 - c. Other
5. In your experience, did clients who received the Too Small to Fail tote bag and educational session learn something new?
 - a. Yes, my clients learned a lot
 - b. My clients learned a few things
 - c. No, my clients didn't learn anything new
 - d. I am not sure if my clients learned anything new
6. In your experience, did clients who received the Too Small to Fail tote bag plan to use the materials they received?
 - a. Yes, my clients said they planned to use the materials
 - b. No, my clients said they didn't plan to use the materials
 - c. I am not sure if my clients planned to use the materials they received
7. Which item(s) did parents seem interested in when you went through the tote bag with them? Check all that apply.
 - a. Bib
 - b. Placemat
 - c. Book
 - d. Tip sheet
 - e. Tote bag
 - f. Puppet
 - g. Music card
8. In what ways, if any, did participating in this intervention support you as a WIC Center staff member? Please mark all that apply.
 - a. It helped me to build relationships with my clients
 - b. It helped me to improve the current services we deliver
 - c. It helped me encourage clients to come back to the WIC Center
 - d. It helped me have conversations about the importance of talking, singing, and reading with my clients

- e. It helped me have conversations around healthy eating with my clients
 - f. Participating in the intervention didn't help me
 - g. Other
9. What is your gender?
- a. Man
 - b. Woman
 - c. Genderqueer/non-binary
 - d. Other
 - e. Prefer not to disclose
10. What is your race/ethnicity? Please mark all that apply.
- a. American Indian or Alaska Native
 - b. Asian
 - c. Black or African American
 - d. Latinx
 - e. Native Hawaiian or other Pacific Islander
 - f. White
 - g. Other
 - h. Prefer not to disclose
11. How long have you worked with WIC?
12. What is today's date (mm/dd/yyyy)?
13. What is your name?
14. WIC center location
- a. Chartley
 - b. Cherry Hill
 - c. Eastern Family Resource Center
 - d. Johns Hopkins Hospital
 - e. Lansdowne
 - f. Woodlawn

APPENDIX E: TIME 2 QUESTIONNAIRE (PARENT)

1. Do you remember talking with a staff person here about the importance of talking, reading, and singing with your child?
 - a. Yes
 - b. No
 - c. Don't know
2. Are you talking more with your child because of what you learned at your last visit?
 - a. Yes
 - b. No
 - c. I wanted to, but couldn't due to COVID-19
3. Are you reading more with your child because of what you learned at your last visit?
 - a. Yes
 - b. No
 - c. I wanted to, but couldn't due to COVID-19
4. Are you singing more with your child because of what you learned at your last visit?
 - a. Yes
 - b. No
 - c. I wanted to, but couldn't due to COVID-19
5. Do you recall receiving a tote bag with books and other materials at your last visit?
 - a. Yes
 - b. No
 - c. Don't know
6. Have you been using the bib you received in your tote bag?
 - a. Yes
 - b. No
7. How useful did you find the bib you received in your tote bag?
 - a. Not at all useful
 - b. Slightly useful
 - c. Moderately useful
 - d. Very useful
 - e. Extremely useful
8. Have you been using the placemat you received in your tote bag?
 - a. Yes
 - b. No
9. How useful did you find the placemat you received in your tote bag?
 - a. Not at all useful
 - b. Slightly useful
 - c. Moderately useful
 - d. Very useful
 - e. Extremely useful
10. Have you been using the book you received in your tote bag?
 - a. Yes
 - b. No
11. How useful did you find the book you received in your tote bag?
 - a. Not at all useful
 - b. Slightly useful
 - c. Moderately useful
 - d. Very useful
 - e. Extremely useful
12. Have you been using the tip sheet you received in your tote bag?
 - a. Yes
 - b. No
13. How useful did you find the tip sheet you received in your tote bag?
 - a. Not at all useful
 - b. Slightly useful
 - c. Moderately useful
 - d. Very useful
 - e. Extremely useful
14. Have you been using the Talk, Read, Sing tote bag?
 - a. Yes
 - b. No
15. How useful did you find the Talk, Read, Sing tote bag?
 - a. Not at all useful
 - b. Slightly useful
 - c. Moderately useful
 - d. Very useful
 - e. Extremely useful
16. Are you using the puppet you received in your tote bag?
 - a. Yes
 - b. No
17. How useful did you find the puppet you received in your tote bag?
 - a. Not at all useful

- b. Slightly useful
 - c. Moderately useful
 - d. Very useful
 - e. Extremely useful
18. Are you using the music card you received in your tote bag?
 - a. Yes
 - b. No
 19. How useful did you find the music card you received in your tote bag?
 - a. Not at all useful
 - b. Slightly useful
 - c. Moderately useful
 - d. Very useful
 - e. Extremely useful
 20. What other items would you have found useful to include in the tote bag?
 21. In the last week, how often did your child see you read or look at other reading materials (books, newspapers, magazines, flyers)?
 - a. Not at all
 - b. 1 or 2 times a week
 - c. 3 to 6 times a week
 - d. Every day
 22. Has your child seen you read or look at reading materials more or less often since COVID-19?
 - a. More often
 - b. Less often
 - c. About the same amount as before
 23. In the last week, how often did you read with your child?
 - a. Not at all
 - b. 1 or 2 times a week
 - c. 3 to 6 times a week
 - d. Every day
 24. Have you read with your child more or less often since COVID-19?
 - a. More often
 - b. Less often
 - c. About the same amount as before
 25. How often did you sing songs with your child last week?
 - a. Not at all
 - b. 1 or 2 times a week
 - c. 3 to 6 times a week
 - d. Every day
 26. Have you sang songs with your child more or less often since COVID-19?
 - a. More often
 - b. Less often
 - c. About the same amount as before
 27. In the last week, how often did you tell stories with your child?
 - a. Not at all
 - b. 1 or 2 times a week
 - c. 3 to 6 times a week
 - d. Every day
 28. Have you told stories with your child more or less often since COVID-19?
 - a. More often
 - b. Less often
 - c. About the same amount as before
 29. In the last week, how often did you say nursery rhymes with your child?
 - a. Not at all
 - b. 1 or 2 times a week
 - c. 3 to 6 times a week
 - d. Every day
 30. Have you said nursery rhymes with your child more or less often since COVID-19?
 - a. More often
 - b. Less often
 - c. About the same amount as before
 31. Do you have internet access where you are currently living?
 - a. Yes
 - b. No
 32. Are there resources or information that would be helpful to you during this crisis?

APPENDIX F: SUGGESTIONS FOR TOTE BAG MATERIALS

Parents' suggestions for additional items to include in the toolkit are listed below. These responses were communicated to staff, who then entered them into the survey. The responses are shown as they appear in the data. If a response included more than one suggestion (e.g., "book, puppet") it may be listed under more than one category (e.g., Educational Materials and Toys/Games). The resources listed below are verbatim from what was entered into the survey.

EDUCATIONAL MATERIALS

- DVD movie, more books, first aids for kids
- more books
- card with story
- more books
- MORE EDUCATIONAL BOOKS AND ITEM
- another book
- MORE BOOKS ABOUT FRUIT ,VEGETABLES, BODY PARTS.
- book, puppet
- MORE EDUCATIONAL MATERIAL
- more books
- More puppets and books
- Something to learn about colors, letters for teaching
- more books
- More Books
- the book
- more books, coloring books
- more books
- more books and puppets
- mas libros
- more books
- mas libros/more books / blocks materials to teach numbers
- more books
- MORE HANDS-ON EDUCATIONAL MATERIAL
- MORE BOOK
- more books
- MORE BOOKS
- more books
- Any educational item.
- more videos.
- more books
- book -
- more books
- books
- two books
- more books

TOYS AND GAMES

- card with story
- book, puppet
- More puppets and books
- more books, coloring books
- more books and puppets
- another puppet
- something moving on floor
- more baby toys
- Sensory and interactive Items.
- coloring books/crayons
- more puppets or toys
- juguetes para bebe con sonidos
- libros de colorear/coloring books
- Sensory toys
- mas juguetes de bebes como sonajas o juguetes con sonidos
- play- fruit veggie models
- toys
- libros para colorear/coloring books
- libros para colorear/coloring books

FOOD-RELATED ITEMS

- play- fruit veggie models
- MORE BOOKS ABOUT FRUIT ,VEGETABLES, BODY PARTS.
- another bib
- spoons and forks
- spoon and bowl
- the bib my son is six months old now and he started eating solids
- having a plate
- WIC snack buddy
- water bottle
- spoon
- spoon
- apron
- utensils
- cup
- spoon
- spoon
- feeding tips
- placemat
- DISPLAY FRUITS
- feeding spoon or set with fork
- little bowl or plate
- spoon
- placemat

APPENDIX G: SUGGESTIONS FOR RESOURCES DURING THE PANDEMIC

Parents' suggestions for resources that would be beneficial during the current crisis are noted below. Responses were dictated to staff, who then entered them into the survey. The resources listed below are verbatim from what was entered into the survey.

EDUCATION/TECHNOLOGY

- FLASH CARDS AND MORE BOOKS
- more picture books, learning websites
- HELP WITH CABLE AND WIFI
- MORE HANDS-ON EDUCATIONAL RESOURCE.
- More videos for children
- RESOURCE FOR FREE BOOK
- Books.
- more access to books due to library closure
- more books
- internet access reduction in price
- ways to get him to be attentive
- youtube kids resources
- celular
- LEARNING WEBSITES
- videos
- ABC mouse
- more spotify songs & books
- Use of tablet
- activities to do-virtually see kids learn social skills
- using the computer ofr tv
- book
- internet
- recursos para juegos didacticos
- download free books to read
- videos

HEALTH

- teething babies
- POTTY TRAINING TIPS
- Picture of washings hands for children
- donde puedo hacerme la prueba del COVID-19 Gratis porque no tengo aseguranza
- ONLINE RESOURCE IDEAS TO EAT MORE VEGETABLES.

BASIC NEEDS

- baby supplies, such as pampers, wipes etc
- articulos de bebe como pampers wipes y ropita
- more milk
- FOOD PANTRY.
- diapers
- Food banks
- ropa de bebe, pampers, formula
- bib